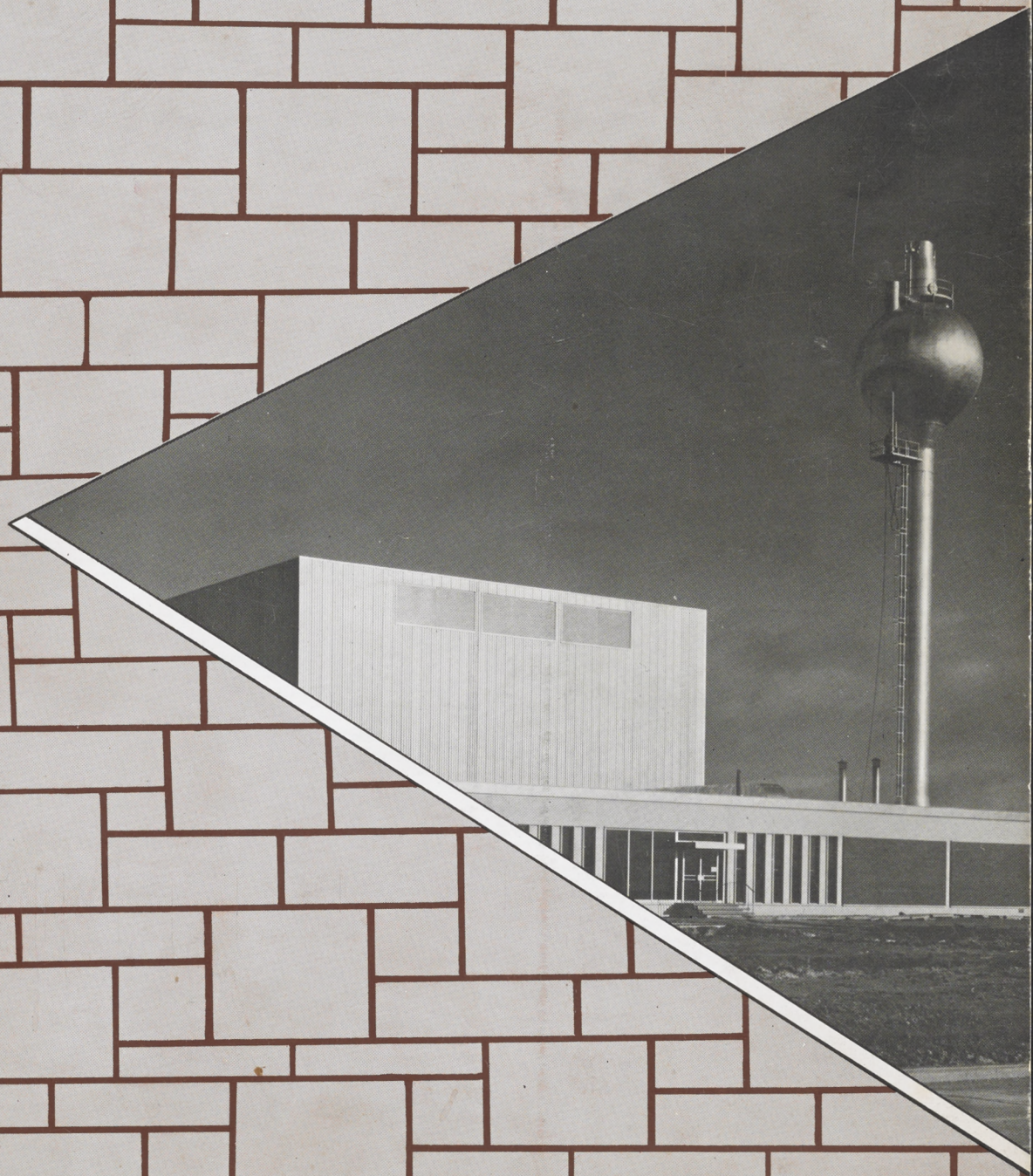


**SLIDE RULE**

**1965**









# Faith of the Engineer

I AM AN ENGINEER. In my profession I take deep pride, but without vain glory, to it I owe solemn obligations that I am eager to fulfil.

As an Engineer, I will participate in none but honest enterprise. To him that has engaged my services, as employer or client, I will give the utmost of performance and fidelity.

When needed, my skill and knowledge shall be given without reservation for the public good. From special capacity springs the obligation to use it well in the service of humanity; and I accept the challenge that this implies.

Jealous of the high repute of my calling, I will strive to protect the interests and the good name of any engineer that I know to be deserving; but I will not shrink, should duty dictate, from disclosing the truth regarding anyone that, by unscrupulous act, has shown himself unworthy of the profession.

Since the Age of Stone, human progress has been conditioned by the genius of my professional forebears. By them have been rendered usable to mankind Nature's vast resources of material and energy. By them have been vitalized and turned to practical account the principles of science and the revelations of technology. Except for this heritage of accumulated experience, my efforts would be feeble. I dedicate myself to the dissemination of engineering knowledge, and, especially, to the instruction of younger members of my profession in all its arts and traditions.

To my fellows I pledge, in the same full measure I ask of them, integrity and fair dealing, tolerance and respect, and devotion to the standards and the dignity of our profession; with the consciousness, always, that our special expertness carries with it the obligation to serve humanity with complete sincerity.



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COVER PHOTO  
WR-1 Reactor Building

Courtesy of:  
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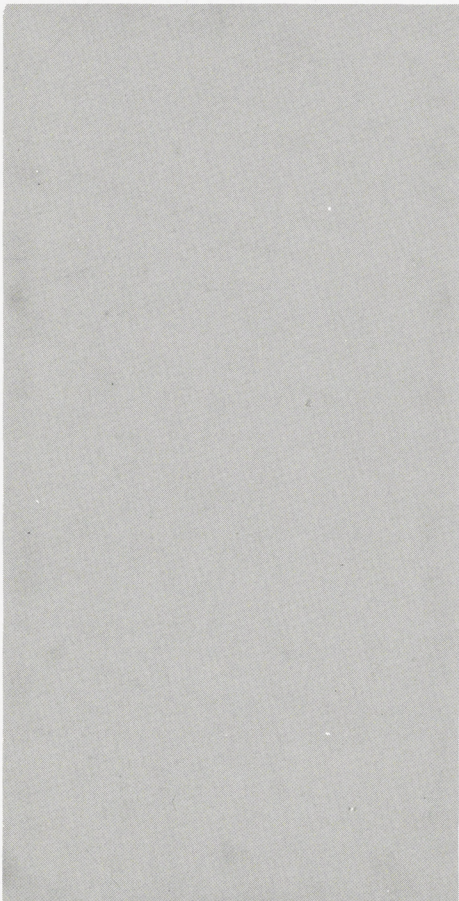
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# FACULTY





# THE DEAN

September 1964, marked the beginning of a new era for the Faculty of Engineering when Dean Hoogstraten, B.Sc. Civil Engineering (Manitoba), M. Sc. (Michigan), M.E.I.C., P. Eng., officially took over responsibilities as the Dean.

Dean Hoogstraten commenced lecturing at the University of Manitoba in 1936 and gave continuous service to the University until he resigned as Professor of Civil Engineering in 1957 to accept the position of President of the Nova Scotia Technical College. Four years later he returned to the University of Manitoba as the Vice-President in charge of development.

Specializing in structural engineering, Dean Hoogstraten was instrumental in the design of the first six storey lift-slab building. He served two terms as President of the Association of Professional Engineers of Manitoba and Chairman of the Winnipeg Branch, Engineering Institute of Canada.

At present, in addition to his work at the University of Manitoba, Dean Hoogstraten is Member of Council of the Association of Professional Engineers and The Engineering Institute of Canada as well as Member of the Board of General Hospital, The Royal Winnipeg Ballet, and the Winnipeg Art Gallery.

With his wide experience and outstanding ability, Dean Hoogstraten brings prestige and leadership to the Faculty of Engineering.

From the students and staff of the Faculty of Engineering, "Welcome".







# A MESSAGE FROM THE DEAN

A University has been described as an institution which is uniquely occupied with matters concerning the development of the mind. It does so by sustaining a continual search for truth. Issues are studied, not in terms of what the greatest number say, or believe, but in terms of principle. Its main objectives must include a desire to rise above mediocrity and to develop those qualities of mind and heart that will embellish our society and ornament it.

The mind cannot be developed by filling it with facts or figures or even beliefs. It can be developed only by exercising it; hence the University's deep concern with quality. A student who fails to operate at the maximum level of his capability denies himself the main advantages the University offers.

A professional school, such as Engineering, must place its objectives firmly in the matrix of those of the University. A school of engineering is not engineering; its function is to prepare minds of quality which will undertake the applications of science to the benefit of mankind. The ability of the mind is more important than what is stored in it. Talents related to self-reliance, adaptability, and fundamental knowledge are essential in the pursuit of a career in which practice, to an ever increasing extent, is subject to rapid change and development.

This re-statement of our objectives explains to some extent, the subtle changes being wrought in engineering education. Much of the teaching of engineering will continue by people who are themselves, primarily engineers. But increasing use is being made of engineering teachers who are primarily scholars, and the Ph.D. is becoming a sought-after qualification

in the selection of teaching staff for engineering faculties. This infusion is leading to greater interest in research and other scholarly pursuits. The soundness of this trend is evident, first of all in its consonance with university objectives, and secondly in an increasing awareness on the part of the student body, in the benefits of graduate study. Employers have always shown a strong preference for engineers of quality, and indications are that there is no shortage of opportunity for those who have fully developed their talents. Industry displays a growing interest in engineers who have had the benefit of post graduate training.

The policies adopted in our own faculty will be directed in accordance with these trends. In future staff appointments more emphasis will be given to higher academic and research qualifications to lend balance to the present high degree of professional competence. This will lead to increased research grants which are so essential to support the costly operations of graduate study. It is expected that a valuable by-product of these policies will occur from assistance in undergraduate laboratory instruction by graduate students, thus relieving senior staff for more productive work.

This increased activity in research and graduate study will require an immediate expansion of facilities and equipment. To this end, a new 1.8 million dollar building is currently in the planning stage.

These steps are directed to the establishment of teaching at the Ph.D. level within three or four years and thus brings the status of the school to that standard to which both graduate students from other schools and staff, can be successfully recruited.



# THE ENGINEER AND THE FUTURE

## CIVIL ENGINEERING

BY A. J. CARLSON

As you look into your future career as an Engineer perhaps you can visualize yourself working as a researcher, consultant, designer, contractor or probably in the field of engineering sales. In your work you will be using the academic knowledge which you acquired in University along with a small part of the basic accumulated knowledge that man has amassed since history began.

The demands of today's complex society and living are presently taxing the minds of our most experienced engineers and there is an increasing awareness of the need for new and more basic knowledge even though the tremendous advances in engineering are said to be unparalleled in history. Technological progress, along with the relaxation of the economic and reliability constraints normally present in engineering problems, have acted together to enable such dramatic feats as the conquest of space. Even as I write this a 10-storey tall Mariner IV rocket is successfully on its way on the start of a seven and one half month journey through 325,000,000 miles for a brief encounter with Mars.

ASSOC. PROF.

DEPT. OF CIVIL ENGINEERING

The increasing importance of technology in the modern economy makes the role of the engineers more and more essential, not only to industry, but to our human society. The engineer is an organizer. He brings together atoms, molecules, electric wires, machines and men. So why should our human society be denied this fruitful capacity for organization that the engineer has? You have the future responsibility for innovating, designing, implementing, maintaining or controlling physical systems and structures. So also is it your future responsibility, in this complex environment in which we live, to use your organizing ability and art of applying scientific knowledge to natural materials and systems to promote and protect the health, welfare, and well being of mankind.

The challenge facing you, the future engineer, is to use your skills to translate scientific progress into the ingredients needed for a better society. Do not be ignorant of human criteria and needs in your engineering activities and be certain that the end results of your endeavours do not lead to the deterioration of the environment in which people live.

## MECHANICAL ENGINEERING

BY R. E. CHANT

Planning in many fields of endeavour, including so-called analytical studies in engineering, are often only an extrapolation of the past. If the future of engineering is predicted in this manner the results are frightening but regardless of how the planner arrives at his concept of the future of engineering it will probably turn out to be conservative.

A century was required from the postulation

PROF. AND HEAD

DEPT. OF MECHANICAL ENGINEERING

of the first engine cycles to the development of the first successful engines in the early 1900's. The development of the gas turbine engine, which is generally considered an invention of World War II, was essentially started in 1905, thus requiring a period of 30 years for development. The development of nuclear power plants with all their complication required less than 20 years.



In terms of time and the level of attainment more spectacular developments could be named, particularly in the fields of electronics and space travel, extrapolation of this exponential trend means the half-life of a graduate engineer is not more than five years. That is, in five years or less you, the young graduate, could be working on something of which your Professor has never dreamed. Admittedly, this statement can be and undoubtedly will be interpreted in more than one way but the lack of hair need not be analogous to inactive grey matter.

Automation is only in its infancy. It is pointless to try to list the processes and industries that are likely to become automated in the future but the pressures which will accelerate automation are many. They are mainly economic, but the increased potential offered to the machine tool industry and the removal of human error which cannot be tolerated in many modern processes are technological, although they certainly have economic implications.

If the term "automation" includes applications of computers, which is the usual concept, then the future of automation is beyond the scope of the human mind. The development of sensory receptors will certainly allow the computer to accept verbal commands and the machine will truly be a partner of man.

The benefits of automation are not considered questionable but an immediate result of automation is the rendering of certain skills obsolete. Thus, labourers, skilled tradesmen (and women), technicians and engineers must all avoid obsolescence and be prepared to return to study, to learn new skills, and to move from one locale to another as the needs for their skills shift.

If the engineer is to develop into a true professional he must work with other segments of our industrial society in an attempt to anticipate and solve these problems. Otherwise the benefits of automation, technological developments and the engineer to society will be questionable.

## **ELECTRICAL ENGINEERING**

**BY J. P. C. McMATH**

**PROF. AND HEAD  
DEPT. OF ELECTRICAL ENGINEERING**

I have been asked to tell something of what electrical engineering graduates will do after graduating. The "typical" electrical engineer, in my opinion, does not exist. The field is so broad and varies so widely, that a simple answer is not possible. To perhaps illustrate the range of electrical engineering, I would liken it to a triangular area, the extremities of which represent research (often merging into and indistinguishable from Applied Physics), Management (unusually attained only after considerable experience has been gained), and, for lack of a better term, "Production" which here is intended to include all the varied activities of everyday electrical engineering in a broad sense.

Ever since the development of Radar systems during the war years, followed by the invention of the transistor and other solid-state devices, the "electronics" or "Communications" options have been most popular with students. However, recent new developments in the "Power" area such as Extra High Voltage transmission (EHV), High Voltage Direct Current (HVDC), and the development of "Unconventional" methods of energy conversion, are causing a resurgence of interest in the "heavy current" areas of electrical

engineering. I suspect that an increasing number will find employment in such areas, and will find it fully as interesting and challenging as the currently more glamorous-seeming "electronics".

About one third may be expected to be employed in research, advanced design or development. An increasing number of these will find it necessary or at least desirable to acquire a Master's degree and quite possibly a Doctorate. These men will almost all work for large organizations and an increasing number will join the Professorial ranks in our Universities.

The other two thirds will probably be employed in general engineering work, sales, applications engineering, the less highly advanced types of designs, testing, construction, etc. Again most of these will work for large organizations. Relatively few electrical engineers work in the construction or exploration field.

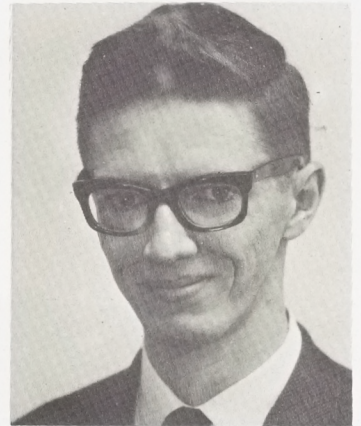
Whatever field the new graduate enters, he will find that his University education has given him the fundamental background on which he can proceed, by means of further study and experience, toward the attainment of professional competence.



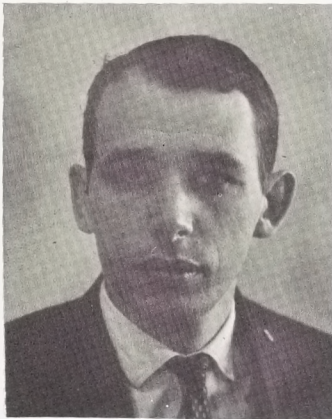
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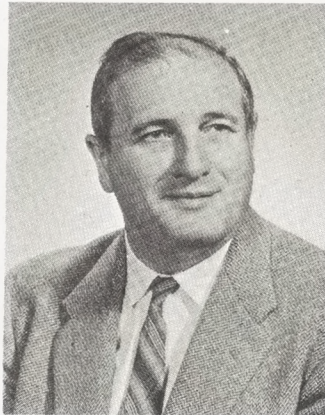
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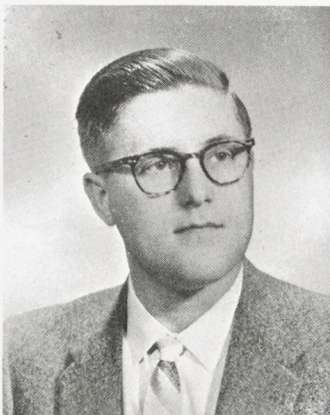
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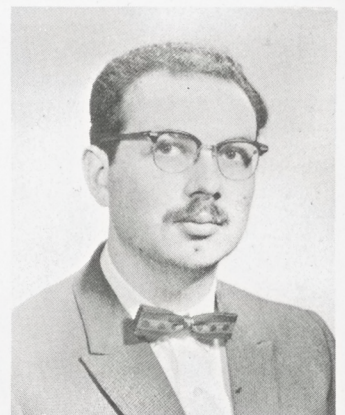
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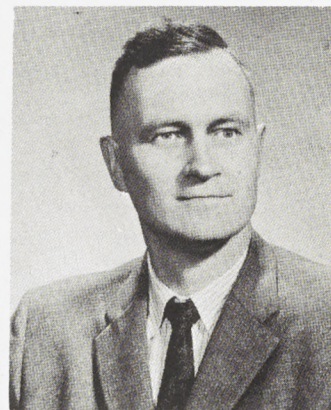
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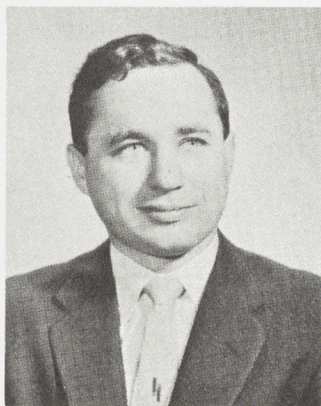
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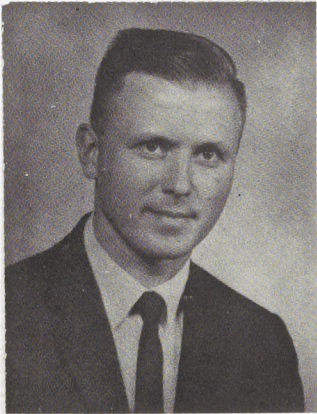
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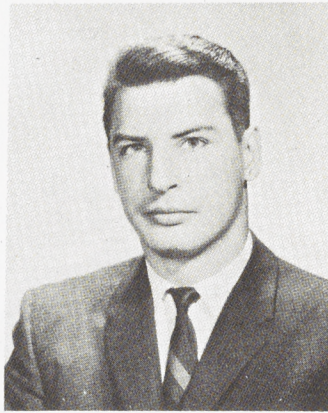
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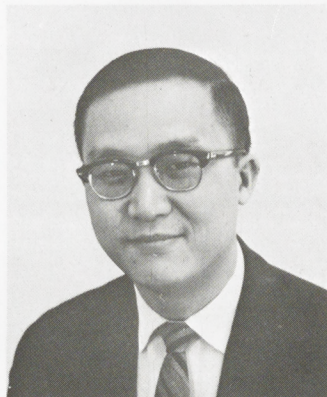
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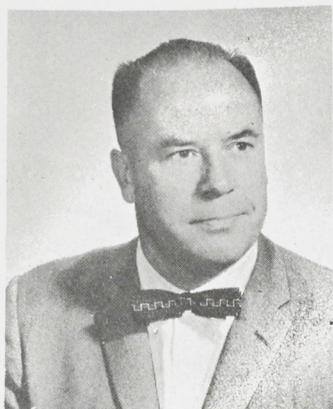
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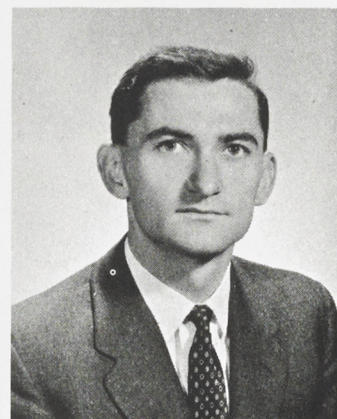
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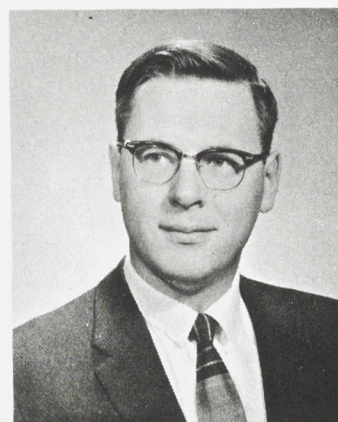
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# WR-1 FITS ORGANIC COOLANT TO CANADIAN PROGRAM

F. W. GILBERT, P.Eng.

REPRINTED FROM CANADIAN NUCLEAR  
TECHNOLOGY



**The 40-60 MW Whiteshell research reactor will tell whether advantages of cost, neutron economy and thermodynamic performance for organic coolants prove out, and problems of pyrolysis, fouling and flammability can be solved.**

CANADA'S heavy water-moderated, natural uranium-fuelled reactors are based on the principal of high burn-up in terms of electrical output. Within this basic concept, a number of coolants (heavy water, organics, steam, fog, etc.) have been, and are being, considered.

There is, however, in all cases except the heavy-water-cooled reactor, an assumed cost of development work. Each of the reactor coolants requires some development and proof of effectiveness. One of these types, the organic coolant, has advanced to the stage where it is felt that a test reactor should be built. This reactor, WR-1, will be located at AECL's new Whiteshell Nuclear Research Establishment (WNRE) in Manitoba. Its purpose is to find where the organic cooled reactor fits on the performance curve shown in Figure 1.

Figure 3 shows a cross section of the WR-1 reactor. The reactor vessel has two compartments, the upper containing the core, the lower the dump space. Above and below these are the thermal shields. Tubes run from the top of the upper thermal shield to the bottom of the lower thermal shield. The pressure tubes are inserted and sealed into these. The fuel is put into the pressure tube through a cap on top of the pressure tube. Removal is through the same cap.

Coolant flow is upwards. Two separate cooling systems are provided in the reactor with equipment space and fuel sites for a third. One of these systems provides cooling for 18 channels, the other 19, with 18 extra sites for the potential third system. It is possible to operate the reactor with different coolants in each system. In addition to the three major systems, space is provided for the installation of five loops. These loops will provide for experiments with many coolants and fuels.

A simplified flow sheet of the primary coolant is shown in Figure 2. The secondary coolant to the heat exchanger is water from the Winnipeg River. The purification and degassing systems which maintain the consistency of the coolant are not shown on this flow sheet.

Control of the reactor is provided by moderator level. Shutdown is achieved by dumping the heavy water into the dump space. Dump is initiated by equalizing the pressure of the cover gas, helium, in the calandria and the dump space.

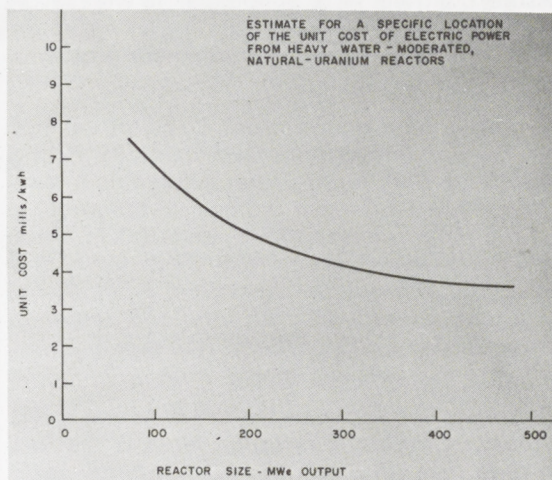
The reactor fuel consists of uranium oxide pellets. These are enriched to 1.69% U-235 by weight. The pellets are clad mostly in SAP aluminum alloy. (Some bundles may be clad with other materials.) Each fuel bundle consists experimentally of 19 elements, eight feet long.

The organic coolant will consist of 70% terphenyls plus the products of pyrolytic and radiolytic damage. An artificial mixture will be used at start-up. At equilibrium it is planned to approach the above mixture. The equilibrium



## Curve shows state of nuclear art here

Fig. 1: This graph shows the significance of investigating potentialities of organic cooling for large reactor units in the 350-500 MW range. The cost of nuclear electric power per kwh is seen to be asymptotic at about 3.5 mills in the area of 400-500 MW output. Sources of this information are varied, and because different weighing must be accorded different figures, no specific points are illustrated on the graph. However, since the location is not specified, this is not significant. Cost differences between different areas in Canada are greater than the uncertainty of the figures, which, however, are stated to be "more realistic than those published four or five years ago." (Some argue the asymptote should be closer to 3 mills).



ratios can, of course, be varied by changing the flows to the degassing and purification systems.

Compared to heavy water, the organic coolant has several apparent advantages. These are being actively studied both in and out of the reactors to determine whether the advantages are real.

- **Direct Cost.** Organic coolant is very much cheaper than heavy water. Hence greater losses can be tolerated and less money needs be spent on highly effective systems to contain the liquid.

- **Neutron Economy.** The principles of high burn-up of reactor fuel are very simple. Any excess neutrons are used to overcome fission-product poisons and to produce plutonium from U-238. Excess neutrons can be increased by reducing leakage and by reducing parasitic capture in the reactor structure, moderator, and coolant. The higher the ratio of plutonium formed to fissile material burned, the longer the fuel can remain in the reactor. And, of course, the greater is the heat output before processing is necessary. In actual fact, burn-ups can be achieved which reduce the cost of fuel to a point where it is uneconomical to process the used fuel.

In the case of the organic coolant, it absorbs more neutrons than heavy water coolant. The pressure tubes, however, being thinner absorb less. The indications are that there is a net gain in favor of organics.

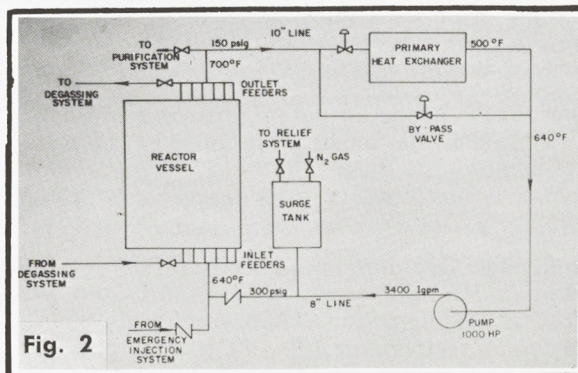
- **Thermodynamic Performance:** Organic coolant has a lower vapour pressure than heavy water and, therefore, it can be used at higher temperature in thinner-walled pressure tubes.

This is not the full story. Because of the higher temperature, the efficiency of conversion to electricity is higher. As a result there is a further improvement in terms of electric output per tonne of uranium burned.

The main disadvantages to organic coolants is that under irradiation and at high tempera-

tures they break down into less desirable products. These can be 'tars' which precipitate out on the cooling surface and interfere with heat transfer. They can also be in liquids having a higher vapor pressure than that of the original organic material. It is necessary, therefore, to have a purification system to remove these materials as they are formed and to maintain an equilibrium mixture in the system. This purification system results in higher capital costs, and higher operating costs. Organic coolant is also lost to the system. Hence some of the advantages of the organic are lost.

When safety is considered, organics have both assets and drawbacks. In a high-temperature, high-pressure, water-cooled reactor, a pipe breakage releases a large quantity of high-temperature water which in turn flashes to steam and results in a pressure increase within the building unless it is possible to release the steam to the outside atmosphere. Unfortunately such water may contain activities within the building unless it is possible to release the steam to the outside atmosphere. Unfortunately such water may contain activities which could be a hazard if they were released. In the case of a heavy-water reactor, one of these activities is tritium. Because of the lower vapour pressure, the organic coolant would not result in a high





pressure build-up in a building if it were accidentally released. Furthermore, the tritium content will be very small. Hence containment problems and costs can be reduced.

A disadvantage of the organic coolant is that it will burn. The flash point is around 280°F., the flame point 330°F., and the autoignition temperature 940°F. As the coolant in the cooling system will be between 640°F. and 700°F., there is always a possibility of fire. Fortunately the fires can be extinguished by normal methods i.e. fog nozzles, sprays, CO<sub>2</sub> etc. The end result is, however, a very dirty clean-up job which could result in lost operating time.

Offsetting the fact that the organics proposed for coolants contain very little tritium is the fact that they are in themselves toxic. The toxic nature makes high ventilation rates necessary. At the moment studies are underway to determine the safe level more accurately. Such figures will aid the designer in providing adequate ventilation at minimum cost. Control of leakage, local venting, and other well known techniques also require study to reduce overall costs.

Among the incompletely known features of the organic reactor are the reactions of the coolant on various cladding and pressure tube materials. This has been studied in loop experiments but requires a further investigation. It will also, of course, be necessary to reduce the heat loss between the organic coolant and the heavy water moderator. Some form of insulation will be needed. There are a number of proposals, all of which require further study before they can be incorporated into a full scale power reactor. The WR-1 reactor is being built to provide answers to as many of these problems as possible. At the same time operating experience will be gained which will aid in designing, building, and running future power reactors.

## DATA ON WR-1

*(These figures are subject to small changes as the design progresses.)*

**Reactor Power** Design power using 37 fuel positions in two cooling systems is 40 MW. Provision is being made for a third circuit of 18 fuel positions to permit the power to be raised to 60 MW in three cooling systems.

**Fuel** Each channel in the original core will have a 19 element fuel bundle. The bundles are eight feet long.

Fuel is arranged in a uniform hexagonal lattice of 9.25".

**Moderator** Operating inventory is 36,700 lbs. including a 3% reserve.

Flow rate 275 l gpm for 40 MW core.

Moderator temperature 130-190°F.

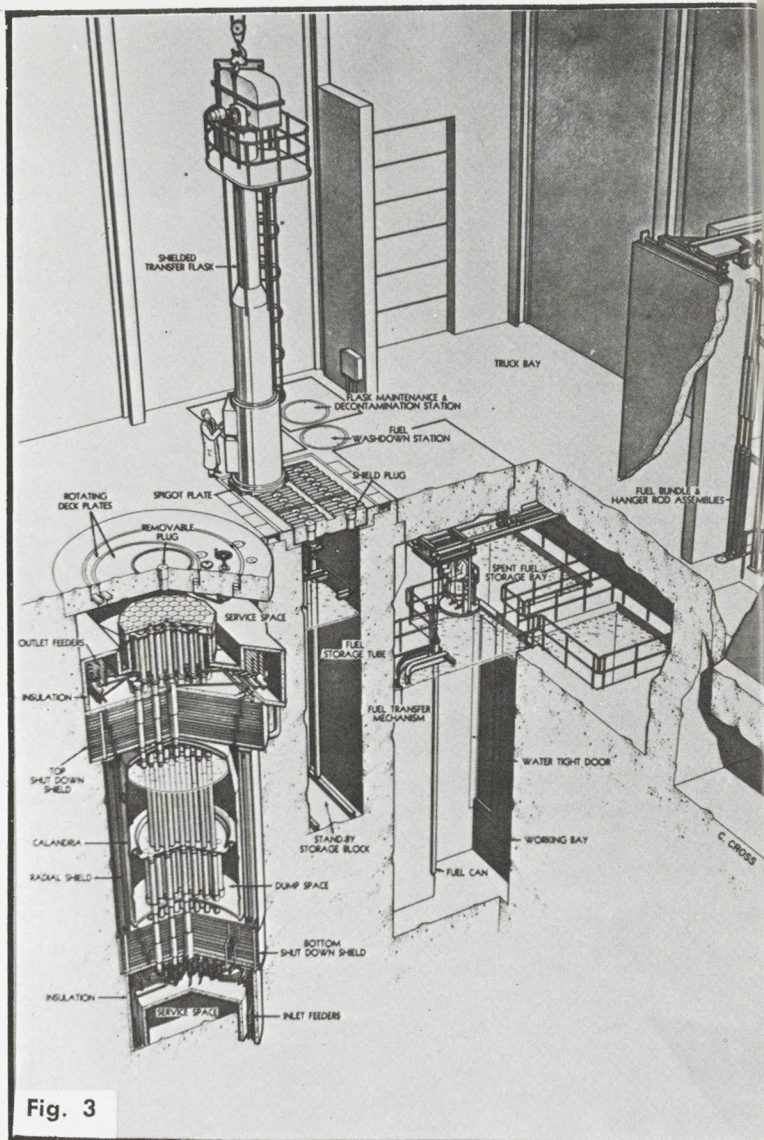


Fig. 3

**Primary Coolant** In the two systems of the original core the coolant will be an organic liquid. The precise material has not been established. Design is based on "Santowax OM".

**Inventory of Primary Coolant** Total for two systems plus purification is 73,000 lbs. In each primary system there will be approximately 10,000 lbs.

### Primary Pumps

|                                     |              |
|-------------------------------------|--------------|
| Type                                | Centrifugal  |
| Power (each)                        | 1,000 h.p.   |
| Suction pressure                    | 70 psia      |
| Discharge pressure                  | 370 psia     |
| Maximum flow (each)                 | 5,000 US gpm |
| Pressure drop across reactor vessel | 150 psi      |

**Process Water** Total flow for two circuits is 9,300 l gpm.



# ON BECOMING AN ENGINEER

BY T. MANN

From THE ENGINEER April, 1963

IN COMMON with beginners in other professions, the young engineer may consider himself unduly humbled by the nature of the assignments given him in the early days of his career. Fresh from consideration of Maxwell's equations, the quantum theory of energy, and other great milestones in the history of scientific development, the newly hired engineer may be asked to conduct a routine test, to order standard equipment from standard sources, or to carry out any of a hundred and one similar "ordinary" jobs. The sudden change may cause him to feel that this type of work is beneath his ability or—far worse—to jump to the conclusion that engineering work can be performed as a routine job. In either case he may react by giving his assignment only the attention that is required to get the work done in whatever manner has been laid down by tradition.

With this kind of understanding of his job, the young engineer will succeed within a narrow frame of reference. The work will be performed successfully. The project, if it is one, will be completed on time. Nobody will disapprove of what has been done, and there may even be modest congratulations at the completion of an assignment.

But the reward for this kind of success is another "routine" assignment. A larger number of challenging projects are available than there are engineers who have proven their capability to recognize and undertake them; however, in the absence of very good luck, the young engineer who performs his lesser responsibilities as mere routine will never be given the opportunity to undertake more important work. Too much—money, jobs, reputation—is at stake to be risked on his unproven potential.

challenge on the next job. Then, when the big idea does lurk beneath the surface, they have acquired the perception to recognize it and the depth and initiative necessary to develop it.

Significant engineering accomplishment of major as well as minor importance can be the reward of engineers who find and accept the hidden, and unassigned, challenges in their seemingly routine assignments. An example of one engineer who accepted an unassigned challenge with dramatic results is furnished by the case of George Southworth. A member of the Department of Development and Research at Bell Telephone Laboratories, his assignment was to make tests on existing telephone plan equipment. Dr. Southworth, however, was a man with an idea. On the basis of certain spurious results noted in the course of an experiment conducted over ten years in the past, he believed that a dielectric wire or a dielectrically filled metal pipe might possess practical applications as a transmission line. At the same time he was afraid that the idea might appear specious, because no return conductor or other return path was provided, and he realized that, in his words, "In a large corporation, particularly at time of depression (1932), an engineer can ill afford to appear ridiculous." Accordingly he decided to conduct a few simple "tests" at a small, rather private test station located at Netcong, N. J. This decision, made on his own and carried out with the knowledge that he alone would be responsible for possible failure, led eventually to the development of waveguide—today a technology in itself.

This level of achievement and the degree of initiative required to reach it do not come out of the blue to engineers who have previously been content to view their assignments as routines. They come to those engineers who make a habit of searching every job for the possible improvement. The question is, "What can I contribute here?" rather than "What do I have to do?" Having made a minor improvement on a small job, they gain the confidence and the acquired creative skill necessary to search out and contribute to a slightly more important hidden



Thus the answer to the question of what is expected of the young engineer is that the most important aspect of any assignment given him is the part often left out or perhaps stated in vague terms. Technological progress as well as personal development rest squarely on the initiative of the individual.

In the usual case the young engineer does not lack ability. He may lack information, but this is the kind of deficiency an interested person can easily make up. It is far more common that he lacks a true understanding of his job. He follows a routine, because nobody has specifically told him that the old routine can and should be improved. He is unaware that the traditional method is the result of compromises made by his predecessors when they encountered problems which they could solve only in part. In the absence of specific direction to investigate a

particular new idea, the young engineer too often remains content not to develop new ideas of his own.

What then is expected of the young engineer? It is expected that he will accomplish his assignments. But it is also hoped, more earnestly than he may realize, that he will discover new opportunities hidden in or associated with his "routine" work. Nobody understands the work as well as he does, because he is performing it. Nobody can formulate the problems associated with the work as clearly as he can, because he meets them daily. (And he is not burdened with a knowledge of all the old reasons why these problems could not be solved in any better fashion than they have been.) Nobody will notice the small anomalies which may give the lie to traditional thinking as quickly as he will. It follows that he has the inside track to the potential new idea which may become tomorrow's concrete development.

## IN APPRECIATION OF THE LATE PROFESSOR

### HAAKON M. HAAKONSEN



It is with deep regret that the Faculty of Engineering records the passing of Professor Haakon M. Haakonsen on November, 15, 1964.

Professor Haakonsen was born in Norway and came to Canada at an early age. He worked as a Technician for Shawinigan Chemicals, and graduated from Queen's University in 1944, obtaining the B.Sc. degree in Electrical Engineering. After some years of industrial work, he entered the teaching profession as Assistant Professor in Electrical Engineering at Pennsylvania Military College, Chester, Pennsylvania in 1952.

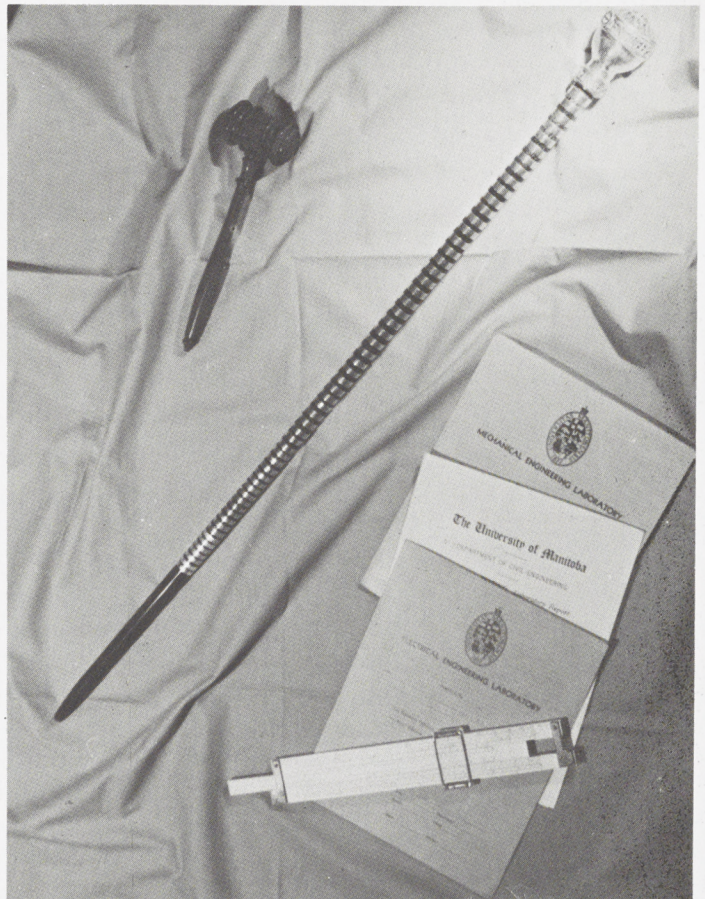
He came to Manitoba in 1953 as Assistant Professor, and was promoted to Associate Professor in 1956.

He was a member of the Institute of Electrical and Electronics Engineers, being very active in student branch affairs. He also served as a member of the Advisory Committee for Electrical and Electronic Technology, Manitoba Institute of Technology, and was of course active on many University - Committees.

Professor Haakonsen will be remembered with affection by students and staff alike for his unfailing cheerfulness, co-operative attitude and willingness to assist students or colleagues at any time, in spite of lengthy periods of ill-health.



# COUNCIL





# HONORARY PRESIDENT'S MESSAGE

From

**C. V. ANTENBRING**

**B.Sc. Civil, P.Eng., M.E.I.C., M.A.C.I.**



I suppose every older generation of engineers have in their time taken a glance into the future and wished that they were starting all over again into the world of tomorrow. I am no exception to this feeling and wish that I could participate in the expanding fields of engineering that lie ahead.

Engineering is now so diversified that a comprehensive list of the many divisions would easily fill this page. Your problem at the outset will be to find a particular activity which holds your interest and demands your greatest efforts. The immediate monetary return is the least important consideration. Your greatest joy will be to find yourself in an occupation so demanding and so consuming of your time that it will take all of your energy and enthusiasm. I hope that you will each find a particular niche which best fits your abilities. As you travel down the road of experience you will come to many forks at which you must decide your course and you should be guided by the above considerations.

In your profession you will never stop reading, searching and asking yourself for better ways to do things, to increase production, to lower costs and devise new methods. In engineering keeping up with developments is a must.

In the structural field alone, in which I have some knowledge a revolution in methods and materials has taken place in the last ten years. We are constantly searching for greater speed of construction and lower costs. The recent comple-

tion of the frame of a concrete building twenty - eight storeys high in twenty - eight days is indicative of the possibilities of these new methods. This is not the end but perhaps the beginning of a new era to meet the challenge of our expanding cities and population.

With a projected population of 40 million in Canada by the end of this century it is apparent that great strides must be made in every branch of engineering. Transportation, highways, communication, power development and the expansion of energy sources, such as, oil, gas are but a few of these requirements. We are on the threshold of development of vast deposits of potash and other minerals. Basic changes in the production of food and irrigation aids in farming must come about to balance the demand for these products.

The technical advances in computers and other high speed aids to the solution of complex engineering problems offers a tool to the engineer which will permit him to make rapid solutions compared to cut and try methods. The engineer will be expected to make his contribution to the application of this rapidly expanding technology.

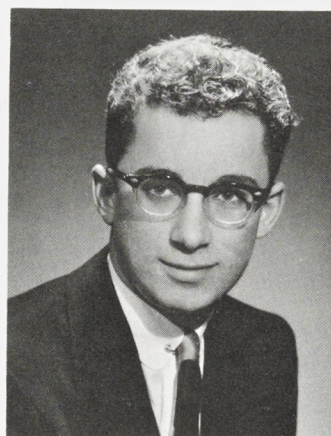
I know that I speak on behalf of all members of the engineering profession and I congratulate you on the progress which you have already made. We welcome you to the profession, to the fun and the fellowship, the achievements and the disappointments of your daily tasks as you move forward. This is the challenge that lies ahead.



# SENIOR STICK'S MESSAGE

**SID SHEPS**

Senior Stick 1964-65



Ever increasing student population on campus is revolutionizing the concept of student government. As the number grows, it becomes more difficult for administrations to concern themselves with other than administrative details leaving the students to take care of their own internal, and to some extent, external problems. This is evident both on campus in general and in our Engineering faculty in particular. Responsible students and student governments knowing their own needs and problems best, will be permitted, more and more, to govern themselves with a minimum of interjection by faculty and administration. Engineering will soon number its students in the thousands. The University of Manitoba Engineering Society council will be responsible for the athletic and social programs for these vast numbers. At the same time, individual participation will be much harder to maintain, requiring contact with many more students. Thus the increased role of student government compounded by the larger number of students will necessitate a mature and capable Engineering council. The Engineers with their spirit and ability deserve the best.

One outstanding aspect of the 1964-65 term was especially remarkable from the Senior Stick's viewpoint. This was the hard work and the sense of responsibility with which council members undertook their duties. From the beginning of the year to its end, from Freshie Week — with the greatest first year participation ever — to the Awards Banquet,

from sports to social activities, those who were responsible for the success of these events displayed an eye for detail that insured the enthusiasm and participation of the Engineering students. Not the least of these tasks was the editing of this fine yearbook and to the editor, his business manager and their staff go the appreciation of the council and the entire student body of Engineering. I am personally indebted to such able personnel being on council this year.

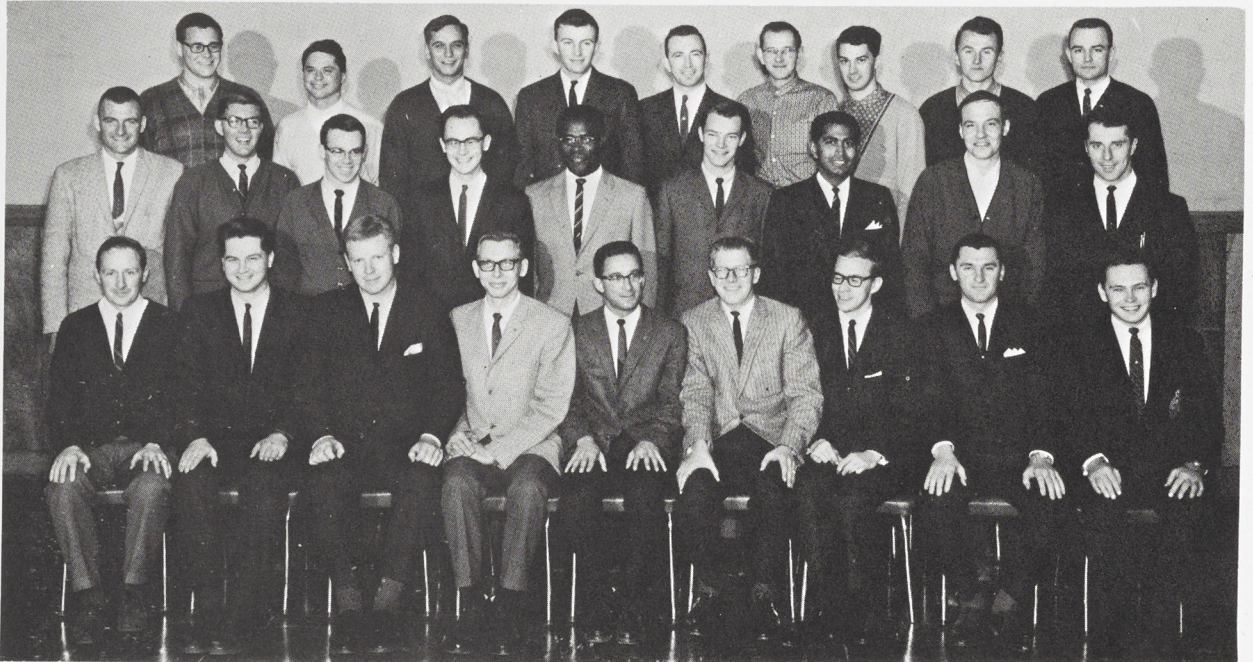
In review, all the frustration and anxiety that seem to be an integral part of any worthwhile endeavour fades from sight and only the memory of an enthusiastic 750 Engineers remains. It will be a long time before that memory disappears.

It is now left for the new council to maintain the spirit which makes the Engineers the campus leaders. And campus leaders they are! This is no idle boast. Many times through the year, students of other faculties have enquired with regard to Engineering opinions and actions on a variety of matters in an effort to conduct their programs as successfully as we do. Our success lies in our colorful tradition which gives us the enthusiasm which makes our endeavours successful. May next year and all the succeeding years result in an ever stronger and richer structure.

To all of you, let this be my opportunity to say thank you — thank you fellow Engineers.



# U.M.E.S. COUNCIL



**Back Row:** Bill Wilton, Chuck Harris, Garth Hand, Ivan Purdy, Dawson Kilpatrick, Al Whitcomb, Jim Buchanan, Hans Schmidt, Barry Solnes. **Middle Row:** Willard Kirkpatrick, Bob Haglund, George McLachlan, Neil MacKenzie, Godwin Phillips, Morley Walkden, Tam Mohammed, Sheldon Fast, Ken Rekrutiak. **Front Row:** Bill McDonald, Brian Faurschou, Glen Peckover, Juergen Schwahn, Sid Sheps, Jack McBride, Ron Steffan, Wally Strutt, Dave Wood.

## EXECUTIVE:

Sid Sheps  
Juergen Schwahn  
Jack McBride  
Wally Strutt  
Ken Rekrutiak  
Glenn Peckover

Senior Stick  
Vice - Stick & UMSU Rep.  
Treasurer  
Secretary  
Purchasing Agent  
Athletic President

## CHAIRMAN:

Ron Steffan  
Bill McDonald  
Garth Hand  
Dave Wood  
Willard Kirkpatrick  
Neil MacKenzie  
Dawson Kilpatrick  
Brian Faurschou

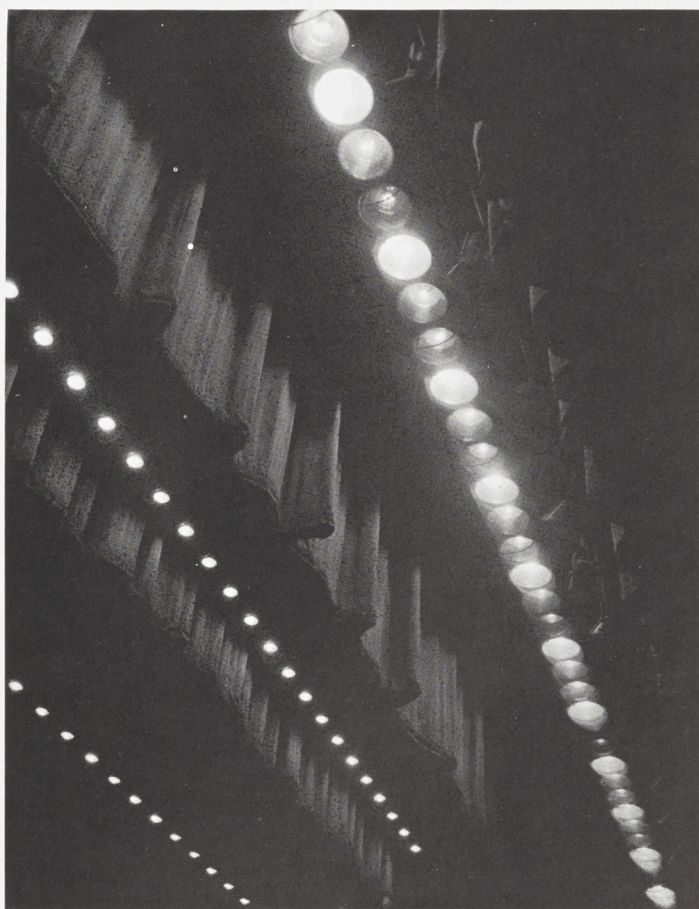
Social  
Debating  
Manitoba & Publicity  
Freshie Week & Drama  
Publications  
Publications Business Manager  
S.E.I.C.  
Brown & Gold Rep.

## ROOM REPS:

|                  |            |
|------------------|------------|
| William Wilton   | III C      |
| Sherwin Harris   | III M      |
| Sheldon Fast     | III E      |
| Hans Schmidt     | Geol. Eng. |
| Barry Solnes     | II — 1     |
| Tam Mohammed     | II — 2     |
| Morley Walkden   | II — 3     |
| Jim Buchanan     | II — 4     |
| Ivan Purdy       | I — 1      |
| Godwin Phillips  | I — 2      |
| Al Whitcomb      | I — 3      |
| Ron Lowe         | I — 4      |
| Bob Haglund      | I — 5      |
| George McLachlan | I — 6      |



# ACTIVITIES

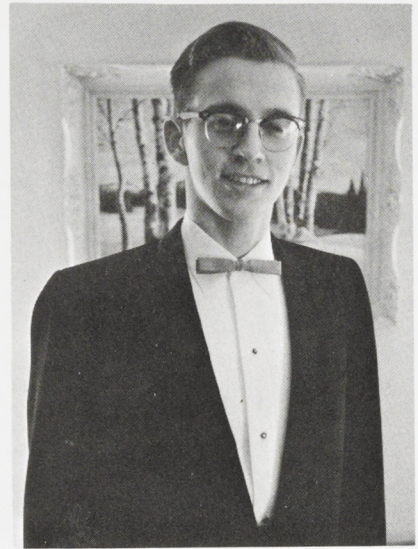




# SOCIAL

## RONALD STEFFAN

Social Chairman



## COMMITTEE MEMBERS

Ken Cooper  
Frank Babienko  
Jim Linton  
Neil MacKenzie

The Engineering Social Scene has proven to be the biggest ever. When it comes to throwing a party we must be the best. Let's just examine this year's events and see how we did.

## FRESHMAN'S BANQUET

This year we held the Freshman's Banquet and Dance in the Royal Alexandra Hotel. It was the biggest attendance in years with 140 freshmen to enjoy the meal and excellent ad lib speech given by our Honorary President, Mr. C. Antenbring.

Freshie Chairman David Wood presented Miss Joanne Holm, our Freshie Queen, with the traditional Engineering cardigan and beer mug.

At the conclusion of the meal, the nursing students from the Winnipeg General and St. Boniface Hospitals arrived. The Freshmen, grabbing this opportunity and a nurse, danced to the music of Charles Young and his orchestra until midnight.

One unusual aspect of the Banquet, which was a first and probably the last as well, was that a bar was set up for the Freshmen for an hour. I'm certain that the Freshmen will remember this banquet for a long time.

## 35th ANNUAL POWER PROM

This year's Power Prom was a quiet little affair with the largest, noisiest crowd, (about 900), ever to attend this dance in the last





twenty years. It was on February fifth on the seventh floor of the Fort Garry Hotel where we all danced to the sounds of Alan Jackson and his Dixielanders, and The Shondels, in the two ballrooms. These ballrooms were decorated to produce a party atmosphere by the Sigma Phi Delta fraternity.

A reception for the Power Prom Queen Candidates, judges, staff, and student council members was held early in the evening, during which the judges met the Queens and cast their votes. This year the candidates were:

Leslie Manos — First Year

Leah Errington — Second Year

Arlene Garven — Civil

Drewe McDowell — Engineering Physics

Pat Zukor — Geological

Cindy Saunders — Electrical

Vonnie Von Helmolt — Mechanical

Not wishing to break tradition, the crowning was not held at the planned 9:30 but was delayed to 10:15 P.M. Professor Schilling started the ceremonies by introducing the candidates to the packed ballroom. Mr. Antenbring took



over and announced this year's Power Prom Queen, Arlene Garven. He then presented her with the traditional beer mug while Barney Charach, the ever present photographer, took his pictures from the also traditional shaky chair. Last year's Queen, Cheryl Wheeler presented Arlene with a bouquet of roses, while Senior Stick Sid Sheps presented the runners-up with gifts.



The winner is announced!





## AWARDS BANQUET

Held at the Montcalm (where else?). All those who helped Engineering be the "top" socially and athletically were rewarded at this banquet. The turnout was amazing considering how close exams really were.

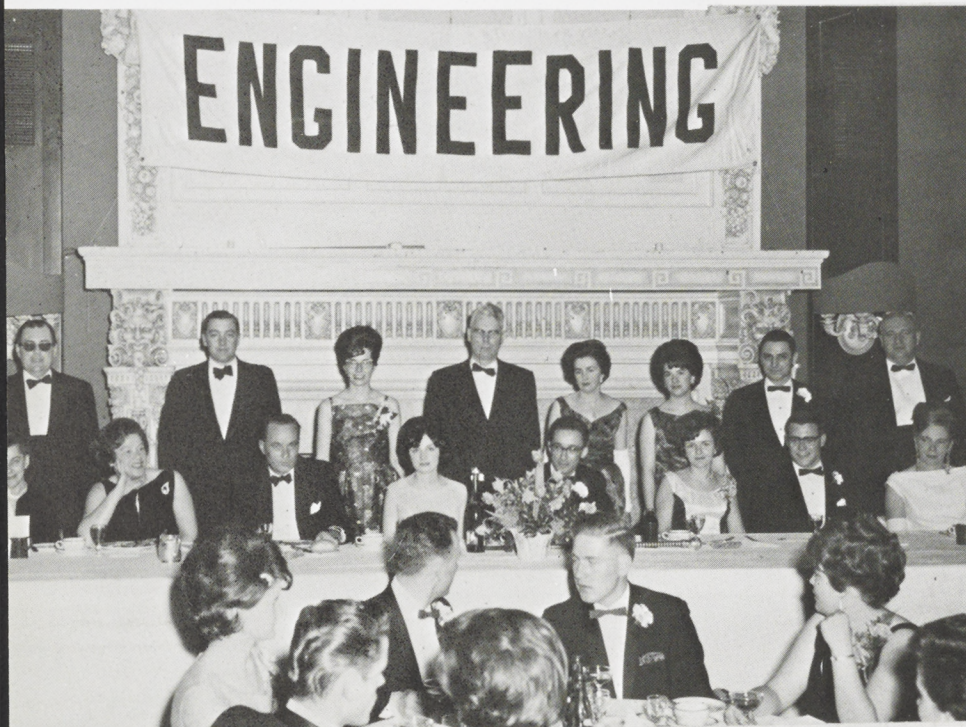
The year was successful socially and financially and more important; we had fun. If we get any bigger crowds we are going to have to book a place on the scale of the Winnipeg Arena or even larger. The spirit this year has been overwhelming! If next year's chairman is fortunate enough to have another spirited group of fellows like I had he can't help but have a successful year.

Following this, the dancing continued till one with The Shondels blasting out the big rock and roll hits to a crowd which seemed to grow bigger and bigger. The eighth floor was the scene of the usual parties and wild festivities.

The recovery rate was sluggish with some people finally making a recovery by March.

## GRAD'S FAREWELL

Over 150 graduating students were at the Royal Alex to enjoy their meal. The smooth music of the Alan Jackson dance band and something to put in the mugs made the evening a great success and it was followed by many private parties.





# ENGINEERS IN SPORTS

## GLENN PECKOVER

Athletic President

Again in 1964-65, Engineering is the home of Athletic Supremacy. The Engineers have put forth a great effort in all sports and the W. G. Kotchepaw trophy should remain in our possession.

This report unfortunately is published about a month before the conclusion of intramural competition, and not much is known about final standings. A new point system was instituted this year which, although it is really much fairer will make it more difficult for Engineering to win the Kotchepaw. However, confidence is the by-word of Engineers in sports, and I am confident that again the high point championship will be ours.

Participation was generally very good this year and defaults kept to a minimum. Much of the credit for our showing this year must go to the conveners. I would like to thank them for a job well done. The thanks of the entire faculty goes to all those who helped make this year a successful one for the Engineers in sports.

## BASKETBALL:

The Engineers have continued their domination of the basketball leagues. With five hustling squads it is expected that both the senior and junior championships will be won by our men. The following two teams have won their leagues and are almost certain to take the championships. Senior Eng. 1: G. McLure, D. Sernyk, B. Lynch, B. Stott, G. Filmon, S. Dolhun, W. Dolhun, D. Redekop, J. Stoddart.

Junior Eng. 4: K. Batt, R. Tallman, R. Grant, J. Reece, D. Mulholland, T. Stratton, B. Lapointe, R. Berard, K. Murray, R. Herrington, T. Collyer, T. Kuluk, J. Dudar.

Convener Gord McLure does a great job in organization as well as starring on our senior squad. Our cagers have been a big factor in our fight for the Kotchepaw this year, and they deserve a lot of credit.



## RIFLE:

Conveners Ted Botterill and Gord Hood put together 14 crack rifle teams this fall, and these sharpshooters went on to dominate the leagues. With the improved and renovated rifle range this year, our men found conditions very favourable for banging out the "100's" and consequently six of our teams made the playoffs. Incidentally, most of these teams were undefeated in their leagues and should do very well in the second round. From all appearances, the rifle championships will come our way this year proving that Engineers have a good eye for something besides women!



Junior Basketball Team

**Back Row:** Ken Batt, Doug Mulholland, Bob Lapointe, Ted Chmielowiec, Rick Tallman. **Front Row:** John Reece, Russ Grant, Tim Stratton, Terry Collyer.

## TENNIS

In the singles this year a good effort by G. McLure and B. Diaz fell short and the championship slipped out of our hands. However the combination of Gord McLure and Jim Schick brought the doubles championship to Engineering.



## TRACK & FIELD

The Engineers came through in grand form this year, winning both the cross country and road race, and placing a close second in the track and field meet.

In the cross country, it was the combination of Gary Burns, Rick Shand, Ron Arnason, and Al Lillies, all placing in the top ten, which brought us the team championship again. There was also a good effort put forth by many other men who entered and tried gamely; notably Willie "Lead-foot" Kirkpatrick who placed 66th in a field of 67.

The same combination of Burns, Shand, Arnason and Lillies brought the road race championship to the Engineers again. Many thanks to these men and to the other participants, such as Jack "Tortoise" McBride who placed 25th in the road race (a field of 26 runners).

Dan Sernyk put forth a one man campaign in the track and field meet, winning the high jump, broad jump, shot put, javelin and setting a new record in the discus. Wayne Cusitar helped our cause by placing second in the pole vault, broad jump, and hop step. In the shot put it was Hanson and Zukiewicz placing second and third respectively.

Many thanks go out to our track men and to Dan Sernyk who did a good job as intramural manager.



**Flag Football Finalists**

**Back Row:** Jim Schick, Chuck Lunn, Bill Fumerton, Ted Botterill, Vic Wehrle.  
**Front Row:** Larry Kostiuk, Jerry Kalyniuk, John Martin, Alex. Martynowicz.

## FLAG FOOTBALL

This was definitely our year for flag football. Under the direction of convener Stan Pearce, we entered 14 top notch teams, of which 6 made the playoffs. When the semi finals came around three of the four teams were from Engineering. Unfortunately the lone intruder from Commerce went onto the championship.

The members of these top teams are: Finalists: Engineering 1—A. Martynowicz, J. Martin, C. Lunn, J. Schick, B. Faurischou, W. Fumerton, T. Botterill, G. Kalyniuk, L. Kostiuk, V. Wherle.

Semi-finalists: Engineering 6: D. Sernyk, W. Dobush, A. Stephens, E. Zukiewicz, R. Shand, G. McLure, D. Redekop, F. Nicholson, B. Wolczuk, K. Preston.

Engineering 8: C. Tottle, B. Buie, R. Topniuk, P. Giesbrecht, R. Slater, B. Matthews, A. Bishoff.

Many thanks to all the teams, to convener Pearce, and to referees Clapham, Pearce and Smith.



**8 Man Football**

**Back Row:** Paul Vyrotsky, Jack McBride, Brian Wood, Dave McGibbin, Dennis Windsor, Brian Faurischou,  
**Front Row:** Brian Gibson, Wally Strutt, Gerry Hirose, Jim Tupper, Willard Kirkpatrick, Dave Mayor.

## 8 - MAN FOOTBALL

Our stalwart 8-man squad did themselves proud this year but only captured second place in the league. The "mountain movers" overpowered all competition but unfortunately finished on the low end of the score in two tight games with Medicine.

The backfield consisted of speedy "Lemme attem" Gerry Hirose at the half, Brian Gibson at the other half, with Wally Strutt and Paul Vyrotsky sharing the quarterback duties. The



line was headed by all star Jim Tupper at centre, flanked by Bruce Bower and Tim Chmielowiec at the guards. Then there was "Touchdown" Cooper and "Moneybags" McBride at the ends.



The defence was strong, headed by Vyrotsky, Wood, Mayor and McIntosh. Coach Willard Kirkpatrick sometimes took time from coaching to throw a few tackles too. Willie did a good job as convener; thanks go to him and his players.



## GOLF

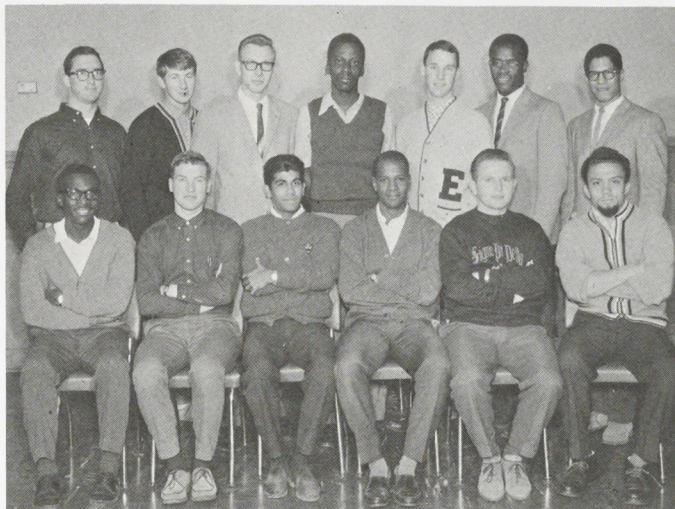
A successful tournament was held this year at Rossmore. Twelve Engineers entered; we gained second in the team championship; and Ted Heidrick picked up fourth spot in the tourney.

## SOCCER

A record participation occurred in soccer this year, and consequently Engineering fielded two teams, one in each division. The first team, made up of many fine players most of whom played last year, came out with a 2-4-0 record. Unfortunately losing a few too many close ones, the team missed the playoffs.

The second division team fared somewhat better, with a 3-1-1 record and made the playoffs. However they missed the championship.

With the many fine players available, Engineering should top the campus in soccer next year. Thanks to Ken Pilgrim for a fine job as convener.

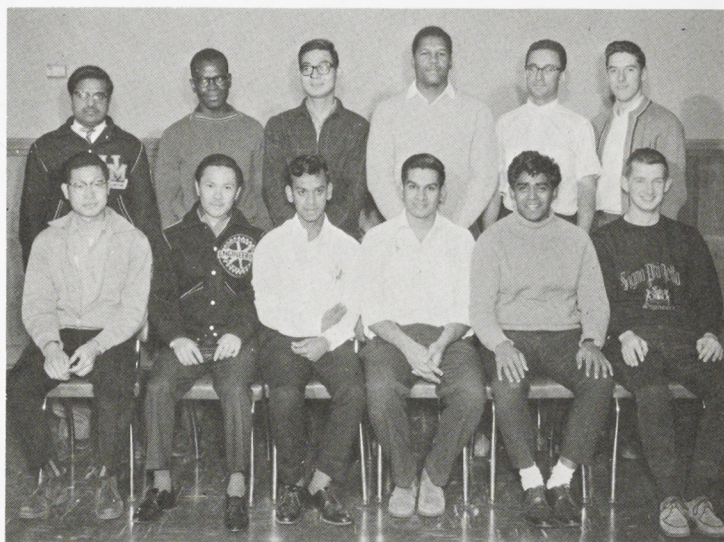


**Senior Soccer Team**

**Back Row:** W. Ellison, T. Kuluk, J. Schwahn, K. Worrell, Al Stephen, G. Phillips, B. Dias. **Front Row:** K. Manswell, J. Martin, M. Moonah, K. Pilgrim, D. Lindner, D. McHardy.

## SWIMMING

Our team this year was short on quantity but high on quality. With only three participants we gained second place in the meet. Swimmers were Al Stephens, Bob Barton, and Gladwin Young. Barton won the backstroke while Young won the breaststroke, butterfly, as well as placing second in the backstroke. Congratulations swimmers.



**Junior Soccer Team**

**Back Row:** D. Ramnarine, N. Smith, F. Yau, S. Julien, Sid Sheps, R. Herrington. **Front Row:** R. Chang, A. Choo-Ying, N. Nabbie, A. Mustapha, R. Seesahai, M. Clark.



## **CURLING:**

### **House League:**

The Pembina Club was the scene of our curling this year, with those good old Sunday morning draws. Competition was keen among our 20 rinks and I'm sure everyone found the league enjoyable when they were in any shape to curl after a rough Saturday night. At present a play-off round is in progress but the winner won't be known for a few weeks.

### **Intramural:**

Ten top rinks were entered into intramural competition this year. Three of these rinks came out with perfect rounds: B. Clapham, G. Cooper, and D. Hicks, and these sharpies grabbed our only playoff positions. With the calibre of curlers in these rinks, they should finish well in the double knockout playoff.

### **Porte Markle:**

This competition does not begin until March, and our entry in this is not yet decided. Last year, the rink of Bruce Clapham with Steve Krywy, Ed Klemm and Glenn Peckover won the Porte Markle for Engineering and it is hoped that the trophy will remain in the faculty this year.

Generally, curling was a very popular sport again this year, and conveners Cooper and Storey handled organization well. The Varsity Bonspiel is not completed at time of writing but with about a dozen rinks entered, a generous amount of the jewelry should fall to our curlers. The first event is bound to be won by an Engineer, with last year's winner Bob Friesen playing Mike Riley in the final. Both are top rated curlers among the Engineers.

## **HOCKEY:**

With five teams in the hockey leagues this year, the Engineers have been recognized as a formidable threat to the championship. Thanks to conveners Wilton and Waldmo for excellent organization.

The highlight of the year was the marvellous mis-match of the Civil Profs vs. the 3 C's. Prof. Morris issued the challenge, figuring the civil boys would be easy prey for the old masters. However, on the fateful day of the game, the crew of masterful C-jobbers showed the old men how to play hockey. Cheered by a near

capacity crowd, the 3 C's scored a rather decisive victory over the short-handed squad of profs.

Backed by John Peters in the nets, and sparked by the brilliant play of Glen Morris, the old timers kept the match extremely close until the last period when the youngsters took advantage of their numbers and stronger legs to take the game. Other stars for the staff were "Flash" Adam, "Power Play" Pashniak, "Killer" Dolhun, and the intruder from Mechanical, "Boom Boom" Schilling.

Starring for the students were Willy Wilton, who picked a fight with Prof. Morris so they could both rest in the penalty box; Al Bishoff, who scored all the goals; Bill Boyansky, who was sidelined with injuries in the first period; Jim Gill, who plays dirty; Rudy Triffo and "Pig Pen" Hicks, who learned to skate just before the game, (or so it seemed); and "Sieve" Ferg MacIntosh in the nets. Referee Muir swallowed his whistle, and linesman Schettler was stoned by the crowd for a bad call. All in all, it was the fun event of the year in hockey.

## **VOLLEYBALL:**

Again this year, volleyball was our top participation sport. 38 top teams monopolized the courts each noon hour, and proved to the campus that Engineers are tops in sports. At least 10 of these teams made the playoffs, and our No. 1 and 2 teams are nearly unbeatable. Many thanks for excellent organization in volleyball go out to convener Walt Bilozor. Volleyball is always our top sport and the championship is certain to return to the home of the leaders in all sports.

## **INTERCOLLEGIATE PARTICIPANTS:**

Furthering the cause of the university and upholding the name of the Engineering faculty are the men who played on the varsity teams. These men deserve a lot of credit for their ability to play in top calibre competition.

Football: Rick Borland, Barry Bray, Al Loewen, Andy Pele, John Poustie, Ken Rekrutiak, Dave Sharpe, Tim Stratton.

Hockey: Barry Solnes, Ed Rivalin.

Tennis: Rick Borland, G. Hoover.

Basketball: L. Hawn, J. Kohut.

Volleyball: Lewis Gershman.

Judo: Gerry Hirose.



# FRESHIE WEEK

## DAVE WOOD

Freshie Week Chairman



With everyone in the faculty present this year for Freshie Week, there was no lack of spirit in introducing the freshmen of the Class of '68 to the U. of M. campus. Everyone else on campus felt, or at least heard, our presence, with the band sticking a tuba in an English class in the Arts building or raising the ire of the Dean of St. John's, as was done while conducting a "return the items borrowed by Engineers during Freshie Week" campaign. Yes, for the Faculty of Engineering Freshie Week went on, and on, and on . . . . .



The theme of the parade was "Outer Limits" to which cause Engineering contributed a mock-up of "The Outer Limit of River Travel", i.e. a riverboat on hydrofoils, propelled by a paddle-wheel being cranked by two Home Economics girls on bicycle frames, pedalling for all they were worth for fear that if they didn't keep the ship afloat, all would go down into the murky depths of Portage Avenue. There was one catch however; all the captives taken by the freshmen were stored on the lowbed (which was incidentally the largest of its kind in the province), for safe-keeping. They completely hid the float and prevented our winning the float contest, not that one implies the other. But the judges must have heard the Engineering Band riding in the goose-neck of the lowbed, and they must have cringed in the face of such might. The one major contri-

bution to the faculty this year has been this band, peopled by several talented fellows, and we look to them to keep this dynamic symbol of Engineering spirit alive.

Our Freshie Queen this year was Joanne Holm, a first year student in Home Economics. She carried out her duties more than adequately, continually holding her natural air of regalness and charm throughout all Freshie Week activities.

The major activity of the Week was the Freshman's Banquet held at the Royal Alexandra Hotel, this year open to anyone. The nurses invited to the dance that followed made the whole evening a smashing success.

And who could forget 250 freshmen doing a duck-waddle through UMSU Cafeteria in time to the sonorous beat of the drum in the band? Truly one of the great moments of the University social scene. The Pep Rallies held in the Engineering Building emceed by Clark and Ennis cannot be forgotten either. And what happened to the Arts' stick? Strange it should turn up in a locker in our building.

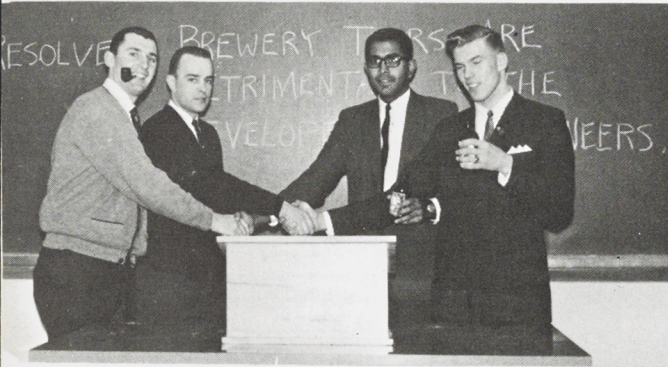
These are but a few of the highlights of Freshie Week; every student no doubt has his own favorite recollection. The privilege has been mine; good luck to all the freshmen in their careers.





# DEBATING

**WM. McDONALD**  
Debating Chairman



This year in Engineering Debating, many poignant and controversial topics were debated to the enlightenment of all present at the debates.

Debating started off with a bang this year when Professors George "Rocky" Russell and Gord "The Vest" Davidson upheld the affirmative against Juergen Schwahn and Gordon McLure in the opening debate; resolved: "Sex Education should be taught in Engineering." Look for some changes in next year's calendar of courses!

Intramural debates covered such topics as women's slacks, Playboy magazine and brewery tours as well as other Engineering subjects.

Participation was at a new high as over forty Engineers took part in the fourteen debates held throughout the year.

Such stalwart Dingwall opponents as St. John's and Education fell beneath the verbosity of the Engineers with St. Paul's and University College managing split decisions over Engineering.

Many thanks to all participants especially Professors Russell and Davidson and Dingwall Judges Dolhun, Morris and Petrie.



**JUERGEN SCHWAHN, E.E.**

## ATHLONE FELLOWS 1965



**BRIAN DUMAS, C.E.**



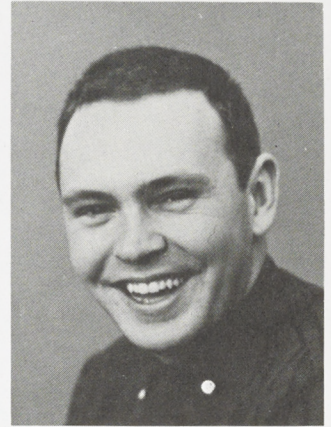
# DRAMA

## DAVE WOOD

Drama Chairman

A boisterous audience howled with enjoyment at what has been called the best Power Prom Pep Rally that Engineering has had in many-a-year. Despite a few errant milk cartons in the auditorium before the rally began, most people left intact and dry after the last curtain fell.

Opened by the Senior Stick, the customary "patter" was supplied by Clark and Ennis, an up and coming comedy team that Engineering can boast of as its own. The traditional introduction of the Power Prom Queen candidates followed, carried out by Social Chairman Ron Steffan. Then came the play (?), *My Bare Lady*; an improved adaptation of a Broadway musical. Narrated very animatedly and boozily by Ken Stein, this production proved to be the high point of the Pep Rally. Gord McClure should receive some type of award for his incomparably sensitive portrayal of the tragic heroine, Myra Gettittle. And who could forget the humor lent by the part of the UMZOO waitress by Glenn Peckover; the vivacity of the Power Prom Emcee



However the one contribution that gave that professional sparkle to the whole performance was the debut of the Engineering Symphony Orchestra. This group of musicians, and they all were musicians, were headed up by Dave Cameron, who incidentally played a cool trumpet. A job well done fellows!

## DRAMA FESTIVAL

The Engineering entry in the Interfaculty Drama Festival was "How Long", a one act play dealing with the apathetic world of today living under the threatening spectre of annihilation by Communist China. As the play called for two females, and there being a limited number in the faculty, two actresses from Fine Arts helped us in our dilemma, and they, along with the other members of the cast, put in a first rate performance. My special thanks must go to David Kroeker who did the lion's share of direction in the play, and Prof. Dolhun for his expert help in providing us with sets, as he did last year. Unfortunately there is not enough room to thank everyone who helped with the play individually by name, except those members of the cast: Bill Stevens as How Long; Bonnie Stack as Jane; Jim Wray as The Reverend; Dan Sernyk as The Author; Marion Newart as Sadie; Romi Singh as Dick; and Vic Parrott as Tom, the apathetic young man.

## ENGINEERING DRAMA AWARDS

The Drama Festival winners were:

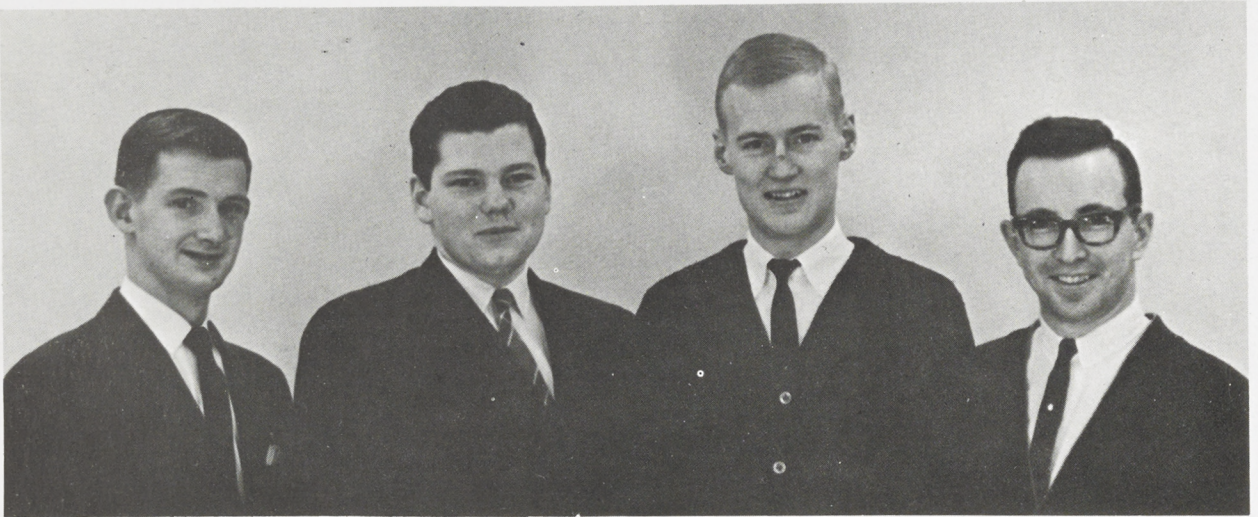
|                        |              |
|------------------------|--------------|
| The best play.....     | Engineering  |
| The best actress.....  | Bonnie Stack |
| The best actor.....    | Vic Parrott  |
| Honorable mention..... | Jim Wray     |



played by Jack Newhouse; or the dexterity in operational slumming captured by Morley Goldberg? (If we could only get write-ups like this in the Manitoban!) That great singing quartet plus one that made its debut appearance can give thanks for its existence to Martin Stoller, Jim Wray, Dan Sernyk, Malcolm Harrison, and Crawford Woodman. Ken Rekrutiak was also convincing as Constable Beetle. Back-stage work was supervised by Monte Wiederhold and Brian Dumas, sets were handled by and large by Dave Jardine and Jack Carthy. John Seddon, Ken Stein, Jack Newhouse, Ken Rekrutiak, Gord McLure, Morley Goldberg, and myself can be blamed for writing the thing.



# S. E. I. C.



**S.E.I.C. Executive:** Mike Clark, Bill Ivey, Gary Crook, Dawson Kilpatrick.



During the past year the executive of S.E.I.C. have continued to recruit new members, attempted to conduct an adequate professional development programme, and to strengthen the organization by introduction of improved administrative procedures.

One of the main problems in the past was lack of records of the S.E.I.C. membership. The present Membership Chairman has made a complete canvass of all Engineering students and reports that there are, in round numbers, 190 — 200 members. The membership is less than estimated, but amounts to about 25% of the total student body. An interesting fact gleaned from the membership lists is that the 4th year Civil and Mechanical classes have up to 60% participation in S.E.I.C.

Activities to date have consisted of weekly films. The highlight of the first term program was an address to the 4th year students by E.I.C. president, Col. Humphries. Col. Humphries emphasized that, if Engineering is to achieve recognition as a profession on a par with Med-

icine and Law, then Engineers must begin to think and act like professionals and work to impress on an indifferent public the role of the Engineer in a modern civilization.

Papers for the Student Papers Competition sponsored by the Senior Branch of the E.I.C. will be presented by Mr. R. French, Mr. W. Ivey, Mr. R. Kavanagh, Mr. W. Kirkpatrick, Mr. W. McDonald, Mr. J. Schwann, and Mr. J. Seddon. The winning paper will be decided upon at a joint dinner meeting of the Student & Senior Branches to be held on February 18th, so that it is not possible to announce the successful paper at this time of writing.

The people presenting these papers deserve a great deal of credit for the time and effort they have put forth. I hope that other students will be encouraged by their example to take an active part next year. It cannot be stressed too strongly that the experience gained in researching and particularly in presenting these papers can be invaluable in later life.

The executive of S.E.I.C. would like to thank all members of the Winnipeg Branch for the support given and in particular, Professor M. Mindess, faculty adviser, and Mr. S. Barkwell, Winnipeg Branch Chairman.

**DAWSON KILPATRICK, S.E.I.C.**

Chairman, S.E.I.C., 1964 - 5



# UMES BAND



Returning the gifts.



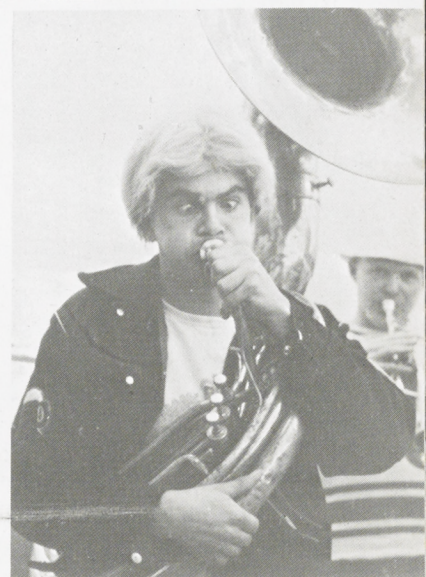
What a noise!



Freshmen take note.



What snappy uniforms!



Ennis again.





## QUEEN

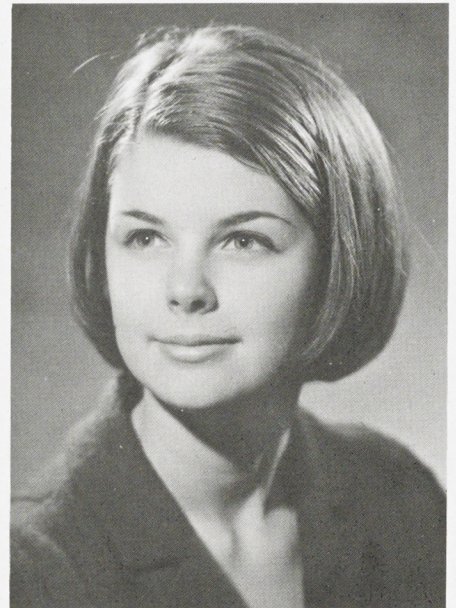
Lovely MISS ARLENE GARVIN was chosen MISS POWER PROM, 1965. A blonde, 5' - 4", blue eyed beauty, Arlene represented the Civils, the lucky dogs.

## POWER

## PROM



MISS LESLIE MANOS  
FIRST YEAR



MISS LEAH ERRINGTON  
SECOND YEAR





MISS CINDY SAUNDERS  
ELECTRICAL



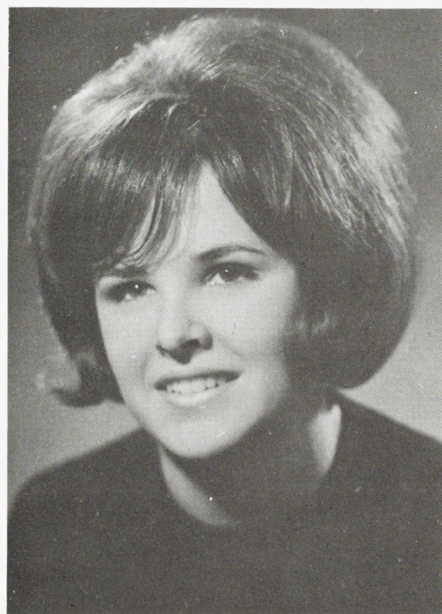
MISS VONNIE VON HELMOLT  
MECHANICAL

## QUEEN

## CANDIDATES



MISS PAT ZUKOR  
GEOLOGICAL



MISS DREWE McDOWELL  
ENGINEERING PHYSICS





The chastity belt.



And so gentlemen . . .



Engineers at work.



The Four Skins.



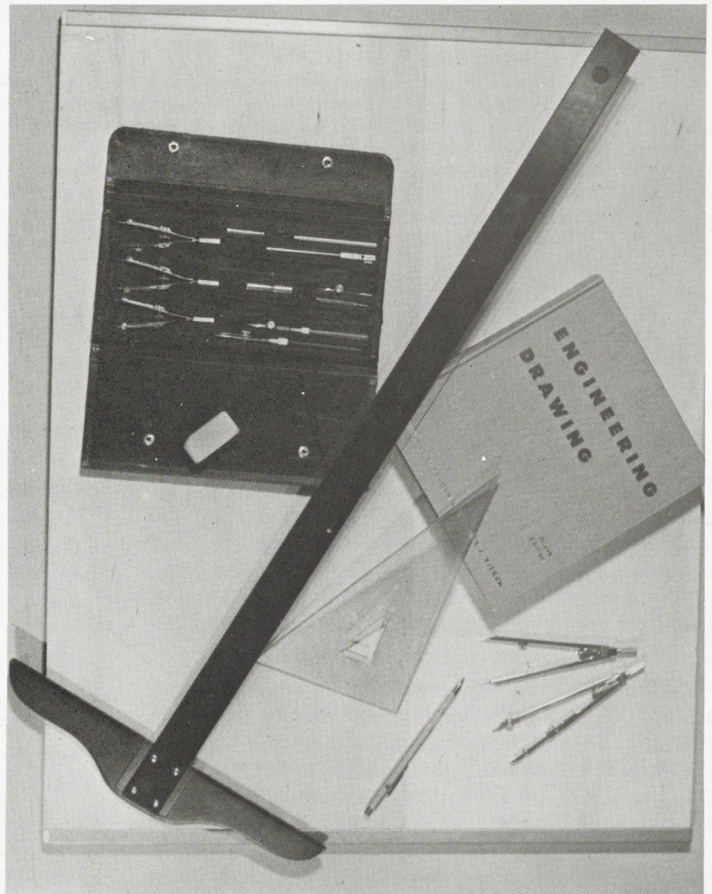
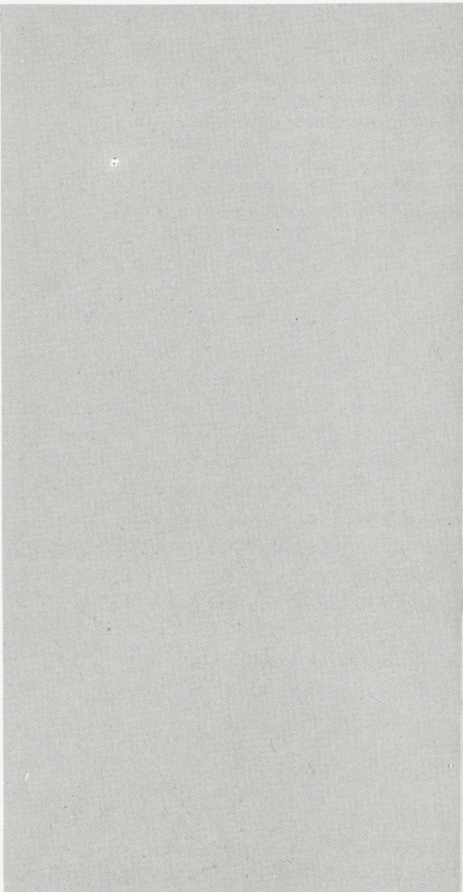
With a rasp and file . . .



Artsmen have strange ideas!



# FIRST YEAR





# SECTION 1



**Front Row:** Russell Lunsted, Anthony Ho, Chow Ma, Levi Friesen, Irvine Koop, David Londry, Ivan Purdy, Ronald Baran, Richard Hunter, Jim Jordon, Rodney Stuart, Stanley Pacak, Richard Thiele. **Middle Row:** Bob McKinley, Richard Beare, Romesk Gulati, Larry Porosky, Gord Hoover, Ryan Rempel, Wayne Burtnyk, Ron Muir, Michael Kondra, J. Nicholson, Ken Peach, Roy Dalebozik, Harry Crawley. **Third Row:** Patrick Taylor, Albert Tucker, Raymond Horsman, Tai Chan, William Barlishen, Ronald Gibson, Elroy Jopling, Robert McMillan, Keith Kennedy, Bob Mitchell, Ken Seuradge, Alastair Myer, Gerald Zubriski, Peter Borowski. **Missing:** Rodney Bulloch, Al Dube, Gary Maxwell, Art McCulloch, Dennis Windsor, Norm Wiwcharuk, Jim Zimaro.

The majority of the fellows from our section live in the Residence and consequently have perfected the art of arriving at 8:29 for the first classes. They may seem a little dead in the morning but their tempo picks up as the day progresses and by the end of the afternoon labs, they are a lively set. Everyone enjoys the "shower parties" which are especially well attended on birthdays.

In the academic sense we feel we have a record, so far, as good as or better than that of the other sections. The fellows who are repeating the course have given us invaluable assistance (i.e. C — jobs) and have added extra vitality to this keen section. We even won our first term debate (over section two, ha ! ! ) by taking the affirmative on the topic Resolved: "That Playboy magazines are detrimental to the development of young Engineers."

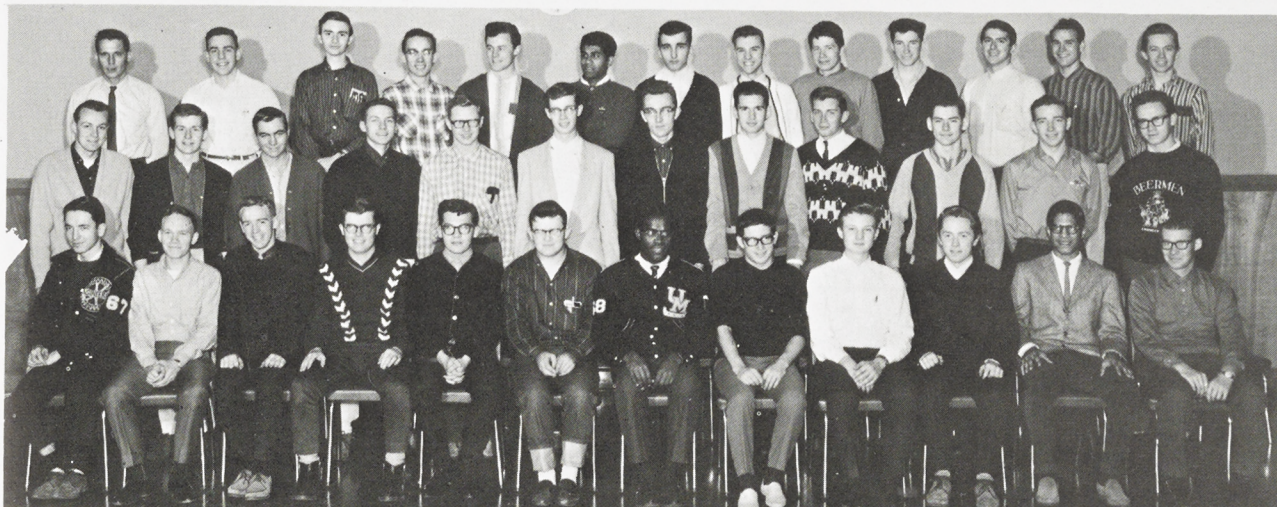
Socially, we hope to incorporate a class party with the Power Prom. Our section has been well represented at all the Engineering and UMSU functions and we confidently believe our Power Prom candidate will ably represent us although Mr. Phillips of section two disagrees. Poor man! He obviously doesn't know our taste in women.

We have participated in many of the faculty sports. The fellows, although scholastically inclined, do enjoy sports as well as cards, girl watching, wolf whistling, and other such activities.

I, Ivan Purdy, the writer of this article, have had the honor of being the president of this fine group of young men and believe they are the sharpest section of the class of '68.



# SECTION 2



**Back Row:** Jacob Bakker, Fraser Williams, Michael Turner, Peter Jung, Gary Warner, Milton Moonah, Gary Posaluko, Richard Whitford, Guy Arnott, John Denoon, Ken Sharp, Dave Peacock, Daryl Pawluk. **Middle Row:** Bob Duffin, John Shineton, Donald Bortoluzzi, Thomas Malis, Chuck Hasselfield, Robert Moynham, Dave Richards, Ken Dyck, Fred Bacon, Joseph Drouin, Stanley Croall, Gordon Stein. **Front Row:** Robert Jankiewicz, Stephen Duncan, Victor Parrott, Robert Ennis, Robert Kapitany, Larry Fisher, Godwin Phillips, Gary Ostwald, John Bray, William Reinisch, Basil Dias, Wayne Simpson. **Missing:** Ian Bowman, Edward Emel, John Erlendson, Frank Goldberg, Rick Lord, Ronald Lowry, Francis Martin, Dave Moffat, Tim Mondor, Cecil Spicer, Gladwin Young.

Section two, it is unanimously agreed, has always been the elite of Engineering. This year this fact imposes itself upon us more than ever. For among us are such notorious and imitable characters like Rick Lord — who is still trying to convince us that he has all the makings of a true "medic" (but through some misfortune or the other landed up in Engineering.) Basil, the greatest front row snorer ever to enter the hallowed halls; Dave Moffat, Erlendson and Bowman; dedicated to the engineers' cause of trying to reduce the price of coffee at UMSU and chasing the Loveys around the campus; and forty others all suspecting that we can make it somehow without having to study.

After a "merry - go - round" first term, the boys ended up with cuts and bruises in the Christmas exams and realized we must buckle down if we are to be around for the handshakes in '68. So Simpson and Bacon (our two alcoholic converts) now take time off from the bottles to attend the odd lecture. Some one (Milton we suspect) has sworn that he would make D.G.

C - Jobs available to the class on time for the Tuesday labs.

But at the time the boys are engaged in two large projects: preparing for the forthcoming Power Prom and trying to convince our President that it is not one of the primal sins to arrange a class party. At the moment it is being whispered that there'll be a section stag at a time not yet decided, a place not yet selected (the Heavens - knows - how - many are the rumours Phillips has been spreading). Then we shall send our top - notch boozers down to Labatt's (any one of the breweries will do for that matter) on a brewery tour if Dr. Douglas will help us to convince the brewerymen that we have already passed first year Physics and are now in III Mechanical!

It is true that the odd seat has been left bare since the fall term (but it was all the examiner's fault) but those of us left shall be back next year (where we now are, of course), until Kelvin, Lightfoot, Jameson and the boys hand us down to posterity as Engineering flunkies.



# SECTION 3



**Back Row:** Brian Mitchell, Jim Quesnel, Doug Chapman, Carl Pentilchuk, Wayne Fraser, Bob Sanderson, Darry Ross, Bill Kong, Alex Siu, Bernie Rog, Helmut Krueger, Bob Finsten, Werner Heid, Sing Woo, Norman Brandson. **Middle Row:** Kurt Lund, Richard Gureuich, Paul Corby, Ted Chmielowiec, Al Wilson, Doug Whicker, Bill McGill, Bill Toews, Dennis Elias, Anthony Kuluk, John Dudar, Bob Tibbs, Walter Wakula, Bob Ungrin, Ralph Nelin. **Front Row:** Ken Procyshyn, Gregory Paulson, Bill Hayward, Bill Dexter, David Carey, Ed Emel, Al Whitcomb, George Bilyk, Wayne Leslie, Ed Ring, Roul Seesahai, Les Persicke, Brian Topnik. **Missing:** Mike Coward, Bill Garvin, Shelagh Grant, Laurie Hown, Al Lye, John Reece, Chung Yau.

"It's a tiger by the tail . . . and a hungry one too." What better words could possibly describe Section III!

By the end of Freshie Week no one would have recognized the bewildered and confused looking freshmen who stood at the registration desk. During the first week on campus the Engineering spirit burst into full life. After many "rebel rousing" marches through campus, and the Freshie Parade, Section III turned in a record number of beanies and trophies. Not to be dulled by heavy studies, this lively spirit was carried to many parties which even resulted in one mate having indefinite walking privileges.

Following the excitement of Freshie Week the class set a rigorous pace in their heavy studies and after the December exams were tallied, Section III had the highest class average and the lowest membership in the Dean's 4F club. Congratulations Doug for the highest marks on the December exams.

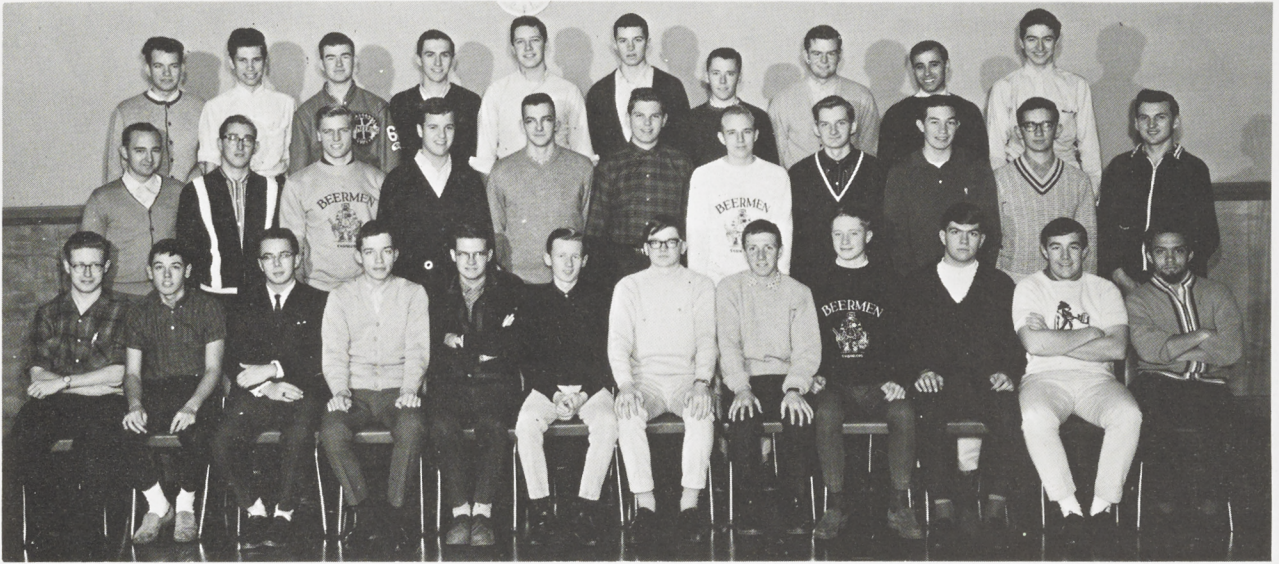
For all those who have been curious about the noise and laughter behind the closed doors of room 8—we have Shelagh. The class is proud to have the only female classmate in Engineering.

Section III joins the Faculty in expressing deep sympathy for the loss of our classmate.





# SECTION 4



**Back Row:** Rick Hawkes, Dave Young, Russ Grant, Ron Slater, Pete Giesbrecht, Bob Dryden, Garry Parker, Doug Bissett, Felix Iafolla, Frank Ellis. **Middle Row:** Alex Kraubner, Remeu Clausen, Dave Mayor, Doug Mulholland, Bruce Finger, Brian Johansson, Terry Drennan, Bob Farish, Don Kostiuik, Ed Solonyka, Art Hiller. **Front Row:** Mike Harrop, Brian Gunness, Eugene Urschel, Wayne Bush, Don Johnson, Mike McDonald, Ron Lowe, Garry Burns, Howard Card, John Healey, Fred Kemp, Daryl McHardy. **Missing:** Denis Bartlette, Robert Barton, Earl Perkins, Robert Ronald, Tim Stratton, Fred Thompson, J. Vaillancourt, Harry Venselaau, Darryl Zamick.

By means of this short blurb I would like to formally introduce you to the accomplishments and activities of the stalwart men of section four.

Section Four is slowly (very) becoming world renowned as the home of the founding chapter of the S.P.C.H.K. (Society for the Prevention of Cruelty to Himalayan Kangaroos.) This humanitarian group meets twice weekly to discuss means of halting the merciless slaughter of these magnificent and rare beasts and plans a field trip to Tibet in the near future.

Should section four students wish to join a social club, two are available; the Imperial Order of the Shaggy Spider or our new fraternity, the

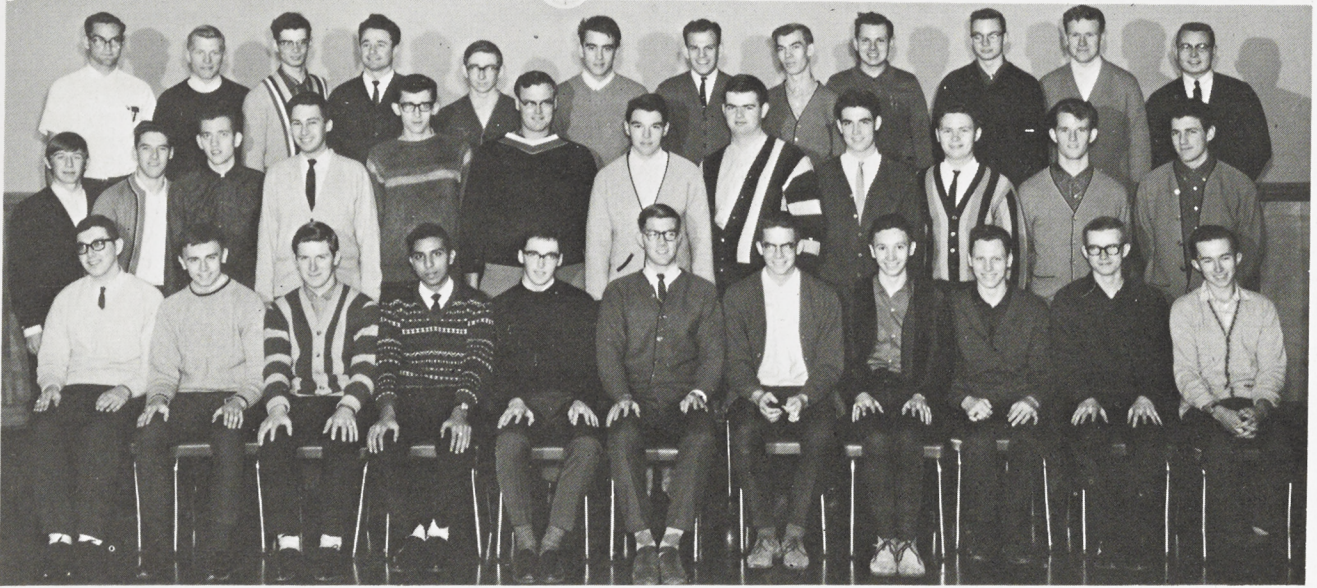
A.B.D's - (not Alpha Beta Delta - Aba Daba-Doos).

Accomplishments: 1) Our track team led by Gary Burns enabled Engineering to win the Cross Country Championship 2) Our debating team which just recently retired undefeated (in our only match, the opposition — obviously sensing our superiority — failed to appear) 3) Our football team which lost out in the semi - finals 4) More strike - outs per capita than in any other section at the Freshman Banquet.

The current subject of interest in section "4ers" is the "Great Milk Machine Issue," although plans for the Annual "Section 4 Open" golf tournament are beginning to attract considerable discussion.



# SECTION 5



**Back Row:** Rick Tallman, Stuart McLean, Martin Stoffman, Pete Wagner, Wayne Adolphe, Rick Rice, John Peterson, David Ayden, John Reimer, Jim Woolison, Dan Linder, Gordon Ryckman. **Middle Row:** Rick Huggins, Ross Herrington, Bill Forsyth, David Maltby, Len Lewkowich, Norman Newman, Nick Hawrysh, Stan Willis, Richard Arnold, Brian Johnstone, Ken Barnett, Terry Collyer. **Front Row:** Dave Benditt, Roman Diduch, Harvey Craig, Kamal Singh, Ian Jeffrey, Bob Haglund, Michael Riley, James McLean, Rick McKay, Dean Chalmers, Bill Leckie. **Missing:** Jack Clark, Rick Frame, Ted Heindrick, Henry Hildebrandt, Terry Hockridge, Richard Luddick, John Metrycki, James Osinchuck, Edgar Rivalin, David Sharpe, Terry Thompson.

Have you ever tried to write 300 words about nothing. I am doing that right now. Speaking about nothing is a good way to describe this section. Occasionally a few dreary souls turn up for unimportant things like class pictures, classes etc. This is a word of caution to all you proud mothers grovelling through here trying to find little Johnny's picture. If he is in this section he's probably not in the picture. If you are wondering where everybody is, they're over in UMSU drinking "coffee" (quotation marks are used because after months of careful research and chemical analysis we have failed to determine the true content of the cups, although we have determined that two of the "reactants" are water and a hydrocarbon resembling that used for soap). The reason for their absence is (a) they think trig is a bunch of garbage and/or (b) they are recovering from the weekend since it is only Tuesday.

We have every type in this section, from those aspiring to be Fidel Castro to Ringo Starr. All have been trimmed except Wilbur who is determined to prove to us that he can grow more hair on his chin than on his head.

Life is tough for an Engineering freshman. If it isn't assignments and tests or someone from a frat trying to sign you up, it's the cops making a raid where you are having a party.

— foot notes —

— the Red Cross had a successful blood drive. They got an extra bonus when they took engineers blood since it had high resale value as 90 proof spirits.

— a couple of our men, who occasionally come out of UMSU for air, report that they have found our section a winner for Power Prom Queen.

— if you are wondering why there aren't any descriptions of class activities, there are none.



# SECTION 6



**Back Row:** Paul Vyrotsky, Kent Murray, Richard Waraksa, Darrell Lowry, Bob Hazel, Ted Renner, Herb Klassen, Peter Epp, Jack McDonald, Pete Berard, Dave Anderson, Ron Arnason, Brian Bowes, Gerald Beaudette, Gordon Ruczak. **Middle Row:** Ken Batt, Bob Lapointe, John Adams, Ken McAdam, Tony Bork, Dan McCaffrey, Jarvis Kohut, John Wiens, Helmut Poschwatta, Art MacDougall, John Towle, Vic Schmidt, Ed Tabachek, Gordon Smith, Axel Eger, Barry Hartry. **Front Row:** Mel Zenith, David Crocker, Bill Kuchma, Fred Munn, Ken Montgomery, Gerry Buydens, George McLachlan, A. R. Puttee, Tom Lonergan, C. Lance Weiss, Gerald Meisner, George Friesen, Ted Thrush. **Missing:** Wayne Broughton, John Kaye, N. Krywv.

The following trash, most of which was C-jobbed in the true spirit of engineering, is dedicated to the memory of Jinks who left us in November to avoid the Christmas rush.

Section six is undoubtedly the most intellectual and highest spirited first year group.

The first notable (or was it notorious) event of the year was the election for council rep. before the lone candidate George McLachlan and a chance to consider the responsibilities of a rep. and withdraw, he was declared elected by the Senior Stick.

Freshie Week activities gave the men of six their first opportunity to show their stuff. Reportedly our boys had a hand in some of the most dastardly crimes of the week. The twelve, awarded to the individual or group "finding" the most beanies went to Richard Waraksa.

The next intersection competition was the S.E.I.C. Membership Drive. Naturally section six had the most members. For this amazing feat of salesmanship, council rep. McLachlan was awarded a typical Engineering Prize.

Our first and only defeat came in intramural debating — but who really cares about debating anyway. Our able team Waraksa and McLachlan

were not able to condemn social drinking. . but who could

A further honour was accorded section six shortly after Christmas when Dean Hoogstraten took a special interest in **one fourth** of our number, as a result of their Christmas results. Despite our 50% failure rate (the second highest!) and our spectacular surveying and mechanics failure rate that was twice the first year rate, some of our group managed very good marks.

As yet section six has not had a party or stag but those that went had a good time at the Power Prom.

Besides our exceptional participation in sports and other Engineering activities most of section six has taken up, especially since Christmas a new activity — studying. Because of this, the large majority of us will be back new year — in second year.

Special features and events of the year included first term coffee breaks — for some unearthly reason called Calculus and E. and S. Our biggest dissatisfaction was noticing the 4:30 English class after signing up for section six. Other surprises: The Christmas Calculus exam and all S.E.I.C. members eventually got their pins.

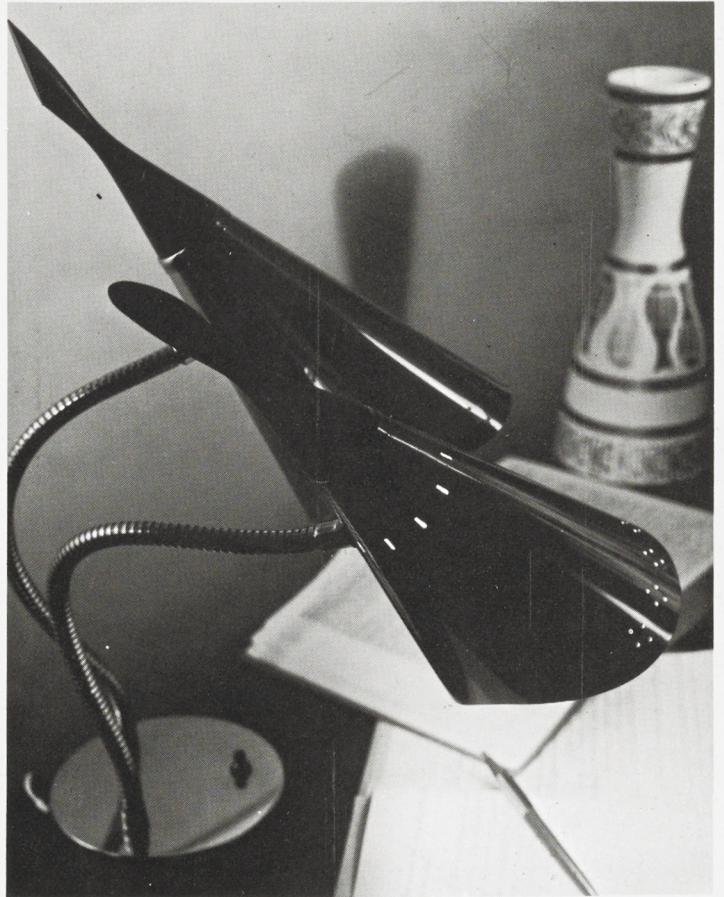
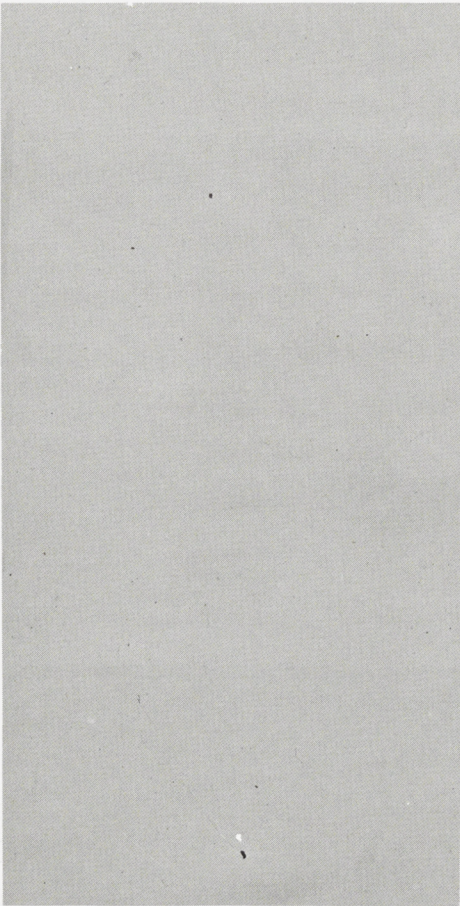






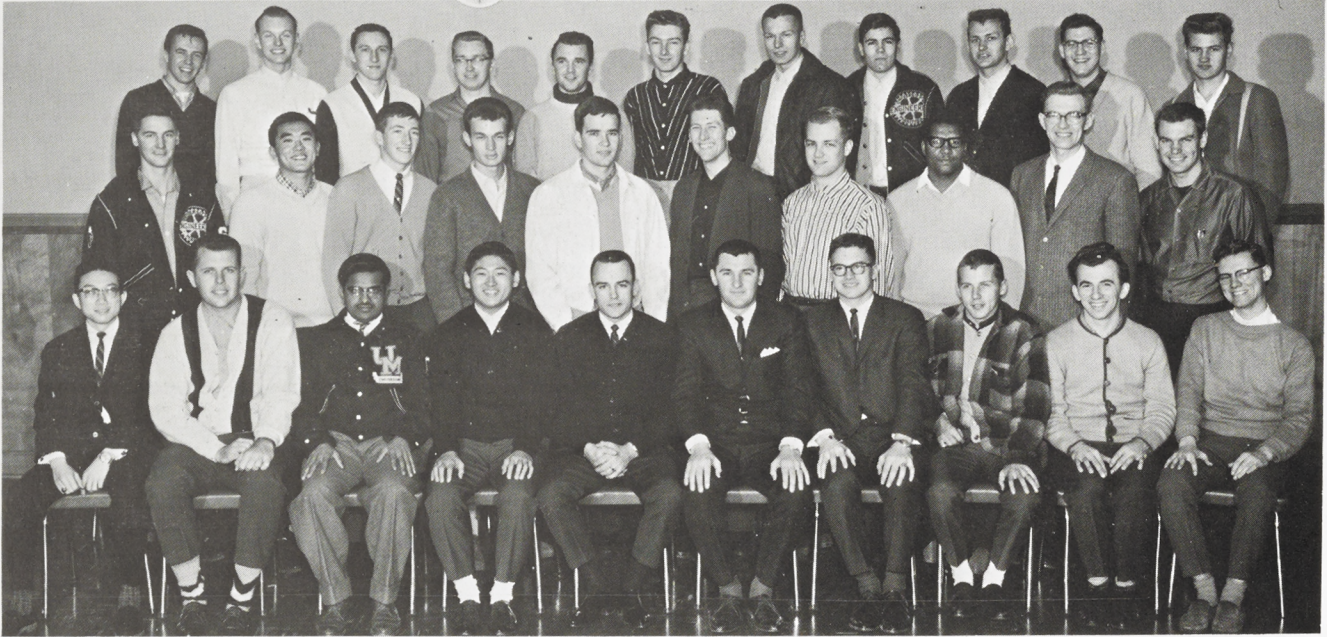
## SECOND YEAR

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# SECTION 1



**Front Row:** Vincent Liu, Bernard Amos, Deoraj Ramnarine, Frank Shinyei, Barry Solnes, Wally Strutt, Ken Buhr, Bruce Clapham, Bob Morin, Ross Vermilyea. **Middle Row:** Sheldon Lowe, Brian Mitani, Stan Pearce, Roy Nichol, Ken Cooper, Ed Giesel, Ralph Giguere, Selwyn Julien, Henry Heinrichs, Joe Lotoski. **Back Row:** Peter Stewart-Hay, Cliff Weber, Dino Longo, Erwin Breu, Glen Cryderman, Stan Gren, Ron Boychuk, Leighton Cameron, Bob Livingston, Stan Hagborg, Brian Bodnaruk.

We thought we'd start the year out with a bang, but unfortunately, we were confined to the Engineering Building. So here we are, just an ordinary class. We haven't even got an Arts type who could put forth a decent writeup to fill the gap that this is now occupying. Our fink class president had to appeal to the class for ideas. Of course, he isn't much good to us anyway.

Morin feels things are dull around here. He longs to return to Beirut, Lebanon where free love is the mode.

Like every other section, we have keeners, slackers, lousy profs., and a guy like Shinyei, whom we almost lost at Christmas. He narrowly missed getting kicked out of the section when he got 93% in Strength. Unfortunately, we did lose Weber and Stewart - Hay.

We do have a few interesting features however. We have several married fellows, such as Lynge, Amos, Strutt, Heinrichs, and Render. Apart from that, they're quite normal. Ramnarine attended every calculus lecture, but believe it or not he's quite normal! His three laws of thermo are: (1) you can't win (2) you can't break even (3) you can't even quit. We have Haller, the most experienced Volkswagen lover in the section. If you ever want to know how to make love to a Volkswagen, just ask Brian.

Cryderman, a not so typical engineering student, bequeaths his stupidity to some unlucky second year student of the 65 - 66 term, probably himself.

Longo tells us he's now three-eighths of an engineer. For three-eighths of an engineer, he was pretty heavy to carry home from the class party. And speaking of class parties, you can always depend on the three lushes, Cameron, Boychuk, and Livingston to come and get stoned.

Strutt, UMES Secretary and star volleyball player, was responsible for nominating Solnes for class president. The boys will get even with him.

Lotoski tells us that Gren wants to be a cowboy. But we know that's not true; Stan wants to be a poet. Look at the poem he wrote: (CENSORED)

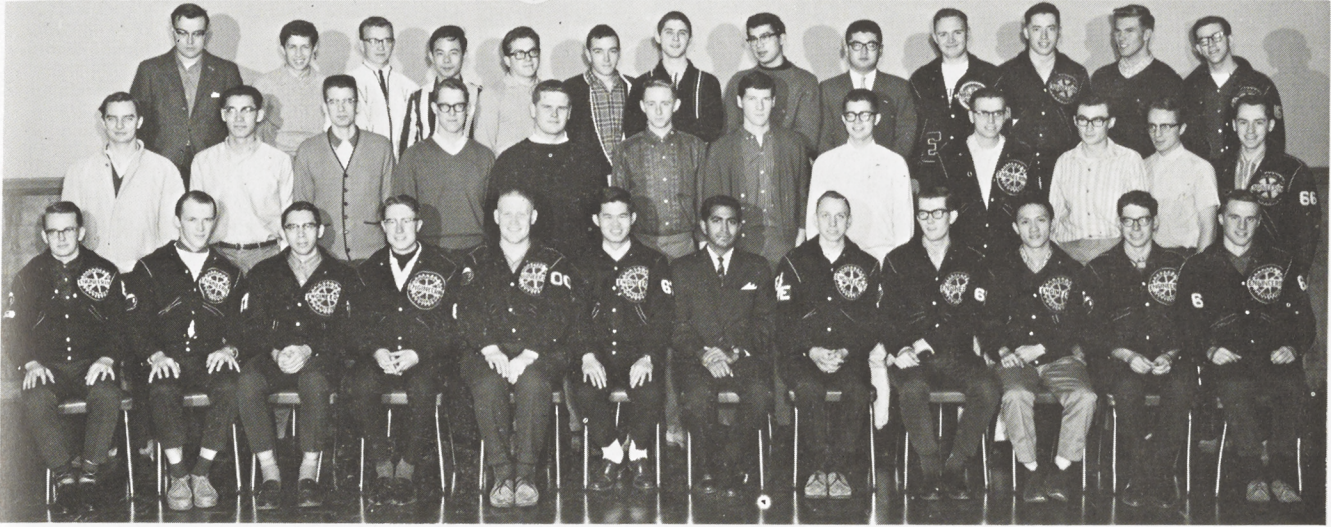
Cryderman is a bit of a poet too:

We are masters in our calculus,  
Although jeerow is our score,  
For we know the basic rule for us;  
There's two twelves in twenty four.

The rest of our class is either normal or not heard from. But there's one more thing that's interesting — almost one quarter of the class is here for the first time — an amazingly high percent.



# SECTION 2



**Back Row:** Bill Sullivan, Rick Keeler, Terry Horkoff, Chuck Yuen, Frenchie Rairville, Warren Kennedy, Steve Spicoluk, Howie Wong, Sho Takasugi, Ken Peake, Gary Brown, Pete Wueppelman, Tony Leaver.  
**Middle Row:** Dave Tyerman, Bill Litvinchuk, Jim Wiebe, John Levi, Andy Pele, Alex Brown, Wayne Lee.  
**Front Row:** Jim Hendrikson, Blaine Harrison, Jim Roik, Bob Keith, Derek de Graaf, Frank Lim, Tam Mohammed, Garry Schwarz, Phil Stark, Andy Kwan, Brian Morrison, Garry Grove. **Missing:** Lorne Barkley, Gil Clifford, Bill Dickson, Benedict Fan, Bob Hempstock, Ralph King, Al Lillies.

Section two is by far the most outstanding of all the sections in second year. The guys are brilliant, handsome, industrious, honest and the most talented in every way. To start the year right, in the true Engineering spirit, we held our section party in October. It was a smashing success and everyone was stoned before the night was over.

In the intramural debates, our team of Wueppelmann and Mohammed was undefeated. We are proud to say that they were among the best for the year; in fact they were master debaters. After proving to us that brewery tours are beneficial, our president disappeared for a short time and delayed our tour of Labatt's. However we are still very optimistic.

Christmas examinations scored the "H" out of everyone. In addition to having the highest marks in second year, our section also boasted a 56% failure rate in Mechanics. Thermody-

namics illustrated the concept of absolute zero to many students and our Calculus classes were most interesting — when we had them!!

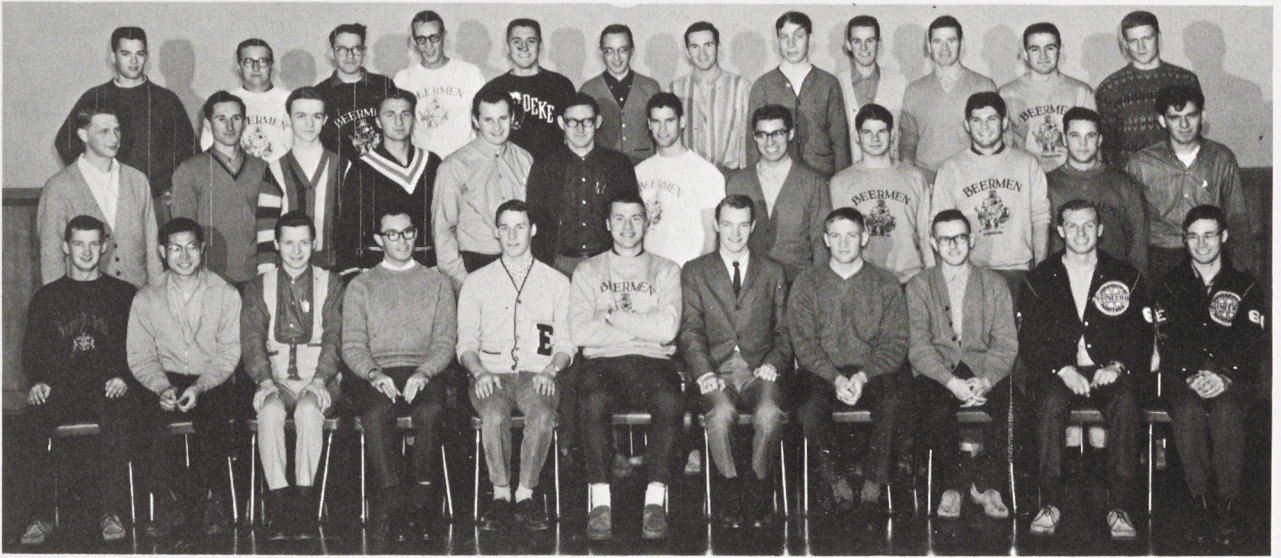
Second term activities were restricted mainly to the Power Prom. A visit by our beautiful class queen Miss Evelyn McKenzie from Home Ec. was most delightful. This year promises to be a real bash at the Power Prom and we have stocked up on all the milk and soft drinks that are usually consumed at private parties.

Although our time was somewhat limited as original strength lab reports were being prepared, and despite the fact that we have no spare periods, some bled for the blood drive.

The students of section two were also the founders of the Engineering Society for the Propagation of the Human Race. We plan a membership drive in faculties of Arts, Home Ec. and I.D. as our motto is "Help stamp out Virginity."



# SECTION 3



**Front Row:** Mike Clark, Richard Chang, Brian Lomenda, Marc Pelletier, Al Stephen, Lloyd Cohen, Morley Walden, Stephen Cousins, Tom Gillman, Lazlo Turnbuckle, Johnny Cochrane. **Middle Row:** John Barkman, Don Krajcarski, Bob Carson, Dennis Penner, Lew Gershman, Kurt Sawatzky, Bruce Nicolson, Denis Proulx, Jim Linton, Brian Churchill, Don Halchuk, Leonard Podheiser. **Back Row:** John Frye, John Fulton, Dave Williams, Frank Whiting, Brian Gibson, Ken Puckall, Dave Donald, Dave Shouldice, Doug Laidlaw, Don Wright, Dave Bodnarchuk, Peebles Ponsonby. **Missing:** John Sampson, Sheridan Schwartz, Mike Simic.

How do you write a complete description of such a super collection of brains, sex - maniacs, C - jobbers and "let's have a party" boys. There are debaters, 8 man football, volleyball, hockey players just to mention a few of the many and varied ways that this section supports Engineering. However, while searching through his collection of old letters, Morley Walkden found the following letter which he received from an old friend after a party with section three.

I've decided we can't go on like this anymore. I mean, I liked the "forget - me - nots" bit but there's other things in life besides flower arranging.

And I think I've found what I've been looking for these boys — boys? — men !! of section three. (I've included their picture so you can see what real champions of manhood they really are.)

What physiques ! What sportsmen ! Hockey, football, volleyball, basketball, are all Children's games for these decathalon stars. Occasionally Steve Cousins, Lou Gershman, Ken Puckall, Brian Gibson, Lloyd Cohen, to mention a few, have been seen playing these games but it's just to keep the other anaemic, spastic sections from getting too cocky.

And parties !! It's too bad these Don Juans, these Romeos, can't go to any but the girls — they would just tear them apart. As the concession to the female race, twelve of them did show up at the Queen Chosing Part. Those lucky girls!

Yours faithfully,  
Lady Chatterly.



# SECTION 4



**Front Row:** Don Henderson, Bob Tillotson, Ed Shinewald, Bob Marshall, Jim Buchanan, Rick Daeninck, Gerry Slusar, Tim Storey, Albert Epp, Walter Friesen, Roy Holstein. **Middle Row:** Dave McKibbon, Brian Wood, Gary Watson, John Danielson, Glen Taverner, Norman Cassie, Wayne Cusitar, John Green-slade, Peter Larkworthy, Jim Peterson, Carl Kummén. **Back Row:** Nester Stadnyk, Bill, Martens, Brian Duval, Herb Gagné, Paul Flatt, Jack Katzberg, Doug Holmes, Mike McKay, Don Card, Bob Wettlaufer, Terry Goodmundson, John Dyck. **Missing:** Rick Borland, Kerry Hill.

This year's section four was a collection of the most talented members of the 1963 - 64 first year class. We are the finest group of specialists in second year. We excelled in very high marks as well as very low marks, both of which were hard to do, considering our second year comrades. We won and lost volleyball games, and as well, some of us participated in football, track and field, basketball, and of course, general slouching in the hall (in which we are equalled by none.)

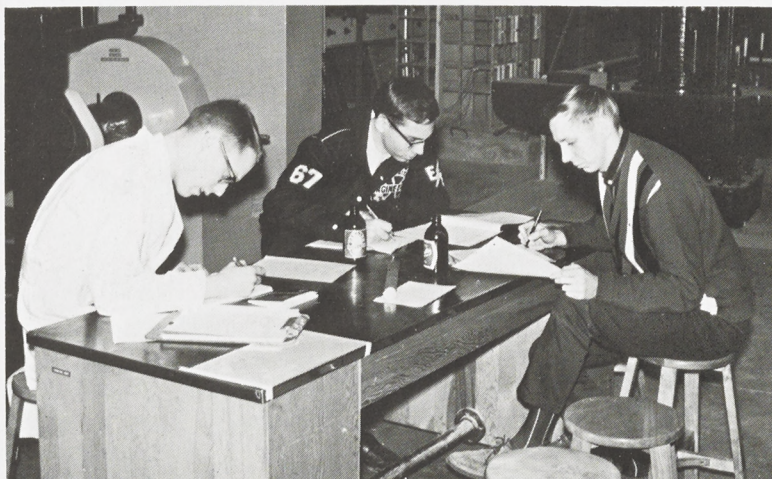
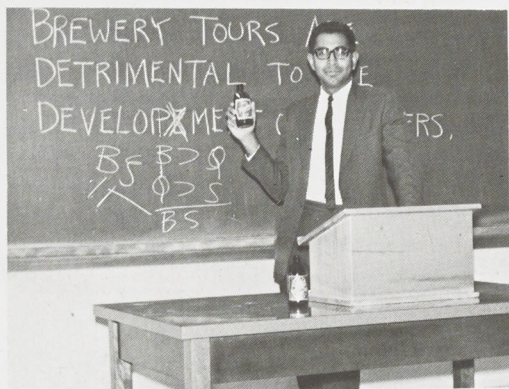
Section IV is comprised of various people; all notorious in their own right. There are the Honda gang, our illustrious debating teams, Boobs, Poop and the boys, Crazy Nester, a few Transcona wranglers, the Virgin's club, and our own "voice", only to mention a few.

Generally, we had a good time this year with so much to look forward to each week. For ex-

ample: "good?" jokes in Strength, a "little" satire" and sarcasm in Physics, our favorite "profile" in Geology, the odd cancelled class, and an infinite number of gatherings and intellectual discussions in the hall outside room 212. Of course, our class president was great with his announcement, wasn't I fellas?

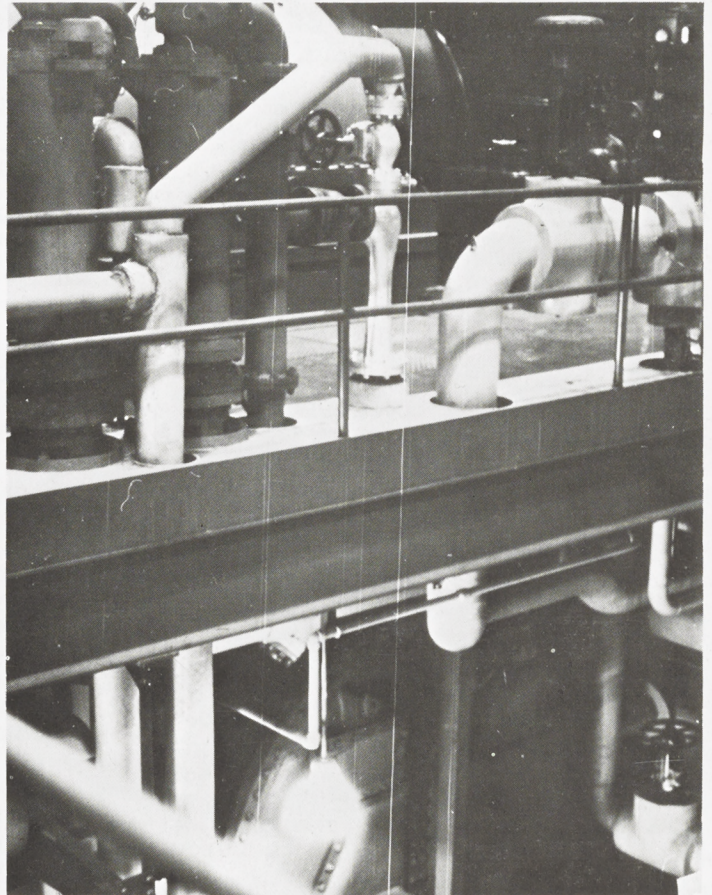
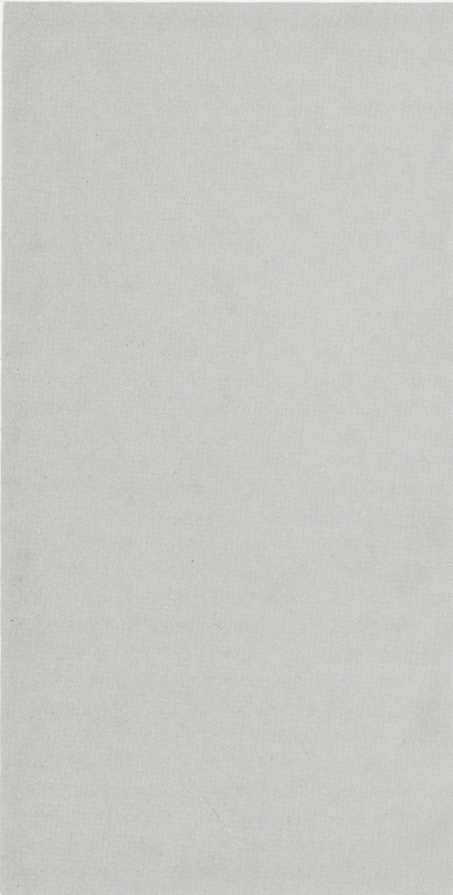
Through all the hardships of this year our spirits were never dampened! We were not driven out of the lab by the choking smoke a la the Mechanical department, nor discouraged by the fact that our class party was always yet to come, or our La - Dee - Da classes, or by not getting our jackets till the snow came, or not even by our Christmas marks. Therefore, most of us will probably be back again next year to haunt either the second or third floors, depending how things go in April.







# MECHANICAL





# MECHANICAL III



**Back Row:** Glenn Peckover, Verne Johnson, Fraser Forrest, Don Lapointe, Ivan Foss, Gary Simmons, Jim Thompson, Terry Horkoff, Neil McKenzie, Ray Nakamura, Michael Janis, Bruce Darcy, John Rujak, Jim Wray, Don Lofto, John Beyak, Ken Preston. **Middle Row:** Walter Dobush, Art Thom, Rick Shand, John Pluhar, Don Douglas, Frank Pasquill, Dave McNair, Norm Wilson, Dan Sernyk, Don Echert, Peter Knight, Barry White, Don Eryou, Art Pankratz. **Front Row:** Dennis Kawa, Kei-Yen Chow, Malcolm Harrison, Peter Storey, Pat Murphy, Neil Smith, Ron Steffan, Chuck Harris, Don Patterson, Mitch Ohta, Bob Wolczuk, Jim Aune, Murray Sloane. **Missing:** John Bertens, Ed Faraci, Gerry Hirose, Bill Jennings, Fred Nicholson, Terry Panke, Dave Redekop, John Ripley, Bruce Wallace, Ed Zukiewicz.

Mechanicals are on the upswing. We are 54 strong this year and threatening to be one of the largest graduating classes on record. All indications lead to a banner year in all phases of university life.

It has been a glorious year in student council participation with four of our class among the inner sanctum. Steffan wore a tie to every meeting.

It has been a year of excellence in sports for 3rd year Mechanical. Shand ran 128 miles, Hirose won 12 Judo matches at the Odeon drive-in, Sernyk won just about every field championship except the shot - put because the shot landed on the judge's head and Pluhar won the La Riviere downhill for girls 75 years and over.

It has been a year of achievement in Shop methods. Dobush became the first engineer to cut an 8 - UNF in his right index finger.

It has been a year of surprise when Lofto found out in D.E. that the big D operator was not a hustler at the Diplomat.

It has been a year of enthusiasm when the

front row asked a total of 1,217,329 questions of which only 7 made sense.

It has been a year of disappointment when Pankratz forgot where the C of G for a circle was during the Graph. Stats. exam.

It has been a year of profound accomplishment in the E.E. labs. The experiments were done with such vigor and rigorous attention to detail that many of the reports looked exactly the same.

It has been a year of heroism in hydraulics lab when McNair fell into the water and Eckhart pulled him out just before he went through the vertical orifice.

It has been a year for creative thinking in Strength of Materials when Peckover proved that Mohr's circle was indeed not round.

It has been a year of laughs in welding class when Smith welded his belt buckle to the oxygen tank.

In closing, the 3rd year mechanical class would like to wish continued success in scholastic achievement to all our fellow students and especially to those 3rd year Civils and Electricals who didn't quite have a high enough average to get into Mechanical.



# MECHANICAL GRADUATES

## DOUG BENTON

Doug has enjoyed a varied university career, some of his noteworthy publications being; "How to play Bridge and pass Exams" and, "Driving Made Easy". Since his Chevy II unfortunately meet a Rambler and a Ford, Doug has kept his carpool happy by driving a new car every week. The future now lies with Schlumberger but how long can he stay away from those S.P.D. parties?

## TED BOTTERILL

Two-Gun Teddie, the terror of Newton siding, has distinguished himself in the past as an expert bridge player. His proficiency extends into other fields also, such as skipping classes, C — jobbing and maniac driving. Ted is the only guy in IVM who wears a coat shorter than his suit jacket to interviews and still gets job offers.

## LYNDON CAMPBELL

A native from the village of St. James, Lyndon likes wild parties at West Hawk Lake. Would play hockey if he could only stay out of the penalty box. His ambition is to find a job with a minimum of work.

## BARRY CHUBB

A St. Vital lad, Chubby can always be counted on for a laugh such as his new design for a vise in 3M shop methods. An avid duck hunter he swears that, "Well maybe this year I'll shoot one". Maybe that red S.P.D. jacket you always wear scares them off. Barry plans a future with Ford. P.F. selling Ramblers.

## GARY CROOK

Always makes his presence felt, especially at New Year's Eve and Power Prom. Besides being a brilliant student (2—4=2) he is an ardent S.P.D., and executive of S.E.I.C. and even shows up for curling every Sunday morning. However no matter what Gary tries, he does it well and will succeed in whatever he decides to do.

## REINHART DAHER

"Reiny" conditions himself, and D. H. for exams with Spanish onions and garlic sausage. Bragging about his car stopped suddenly one day when he came to class late. A married man with two kiddies, "Gutkin" will work for G.E.

## JOHN DALE

Known as the "Grand Dragon" or the S.P.D. "Beast", John takes great pride in his gorgeous beer belly. However, riding in D.B.'s carpool one morning it was quite shaken up. It seems to have settled down again though. John plans post-graduate work in business administration. Future looks good.

## PETER deGRAAF

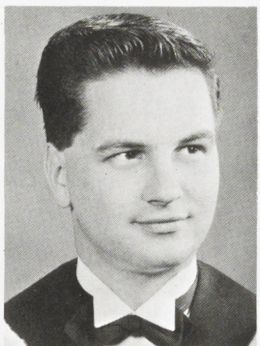
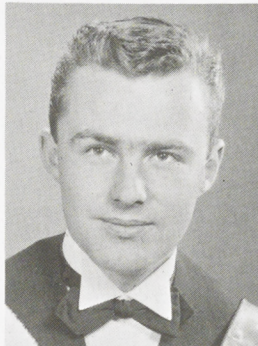
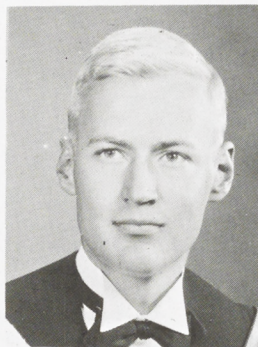
"The Pepperoni Kid", Pete owns four cars, plus numerous car engines — but hitchhikes to and from classes every day in his "Brothel Sneakers". Pete's philosophy on life is: "The main think is not to worry". It is rumoured that Pete burst into a fit of laughter when a girl rolled his Sprite last year. Intends to retire at graduation.

## BRIAN FAURSCOU

Brian has the ability to sleep in class without the common head drooping or shoulder slump and can be seen during the first three classes in this illustrious pose. Even without this "fault?", he still finds time to be Brown & Gold Rep., a member of Sigma Lambda Phi frat. and plays volleyball and football. Brian should have a bright future sweeping floors for National Shipley.

## LLOYD FOSTER

With the days of long side burns and flaming Triangles behind him, Lloyd has progressed to the "Head Man" of IVM. How do you think your "Ah's here" will go over with the boys at Domtar? His days are numbered as he will take his "Honeymoon?" in the West Indies this spring. He plans to become a plant Engineer at a gypsum mine near Hamilton.



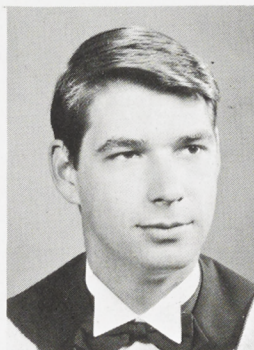


**RODNEY FRENCH**

Known as the "twitcher", has everyone wondering if he has Parkinson's Disease or just a perpetual hangover. Favorite song: North — to Alaska. Future: — SHELL OIL.

**BILL FUMERTON**

Bill is the only man in the class who gets a 75 on "the one I flunked". He has been active in flag football, curling, rifle and weekend drunks. So far as the other sex is concerned, Bill still hasn't decided whether love and marriage is for business or pleasure. Probable future: Lighting the candle at Shell's St. Boniface Refinery.

**GARTH HAND**

Garth hails from out Carman way although no one there admits it. Seems to find time for everything including his studies and can even be found at the big "M" at times. Garth enjoys trips down east and the next one will probably be with his wife and young 'un to Toronto with Domtar. Good luck Garth.

**KEN HERON**

Ken is the world traveller of the class. Between his trips to Europe courtesy of T.C.A., he finds time to attend most of the academic year except for the occasional incident like having one's head smashed in a car accident. His ambition is to build airplanes, but it looks like he will have to settle for gas turbines with United Aircraft.

**HANS HEUMOS**

Comes to us in third year from Germany after he heard about the greatest M.E. '65 group ever at the U. of M. Hans likes to travel and worked last summer in Venezuela. Says he would rather travel around the world looking for a job than go to a campus interview.

**DOUG HOBSON**

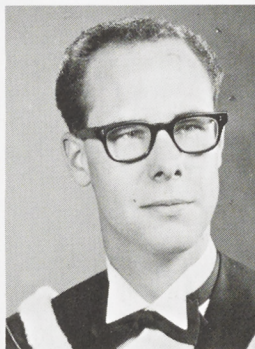
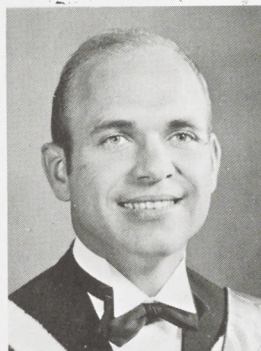
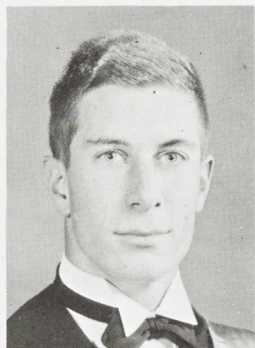
Another onion eater when studying for exams. Tiny's favorite expression when in a state of depression is "another zero weekend". Plays volleyball and is interested in all sports if he could find the time. Married with two kids and studying leaves little time for sports. Plans to work at the Prosthetic and Orthatic Research and Development Unit here in Winnipeg.

**GORDON HOOD**

One of IVM's riflemen. He is Carberry's donation to the Faculty of Engineering. There are two things that Gord dislikes, those who go through Engineering in four years and those who employ the ancient art of C-jobbing. Good luck with B.A. Gord!

**RICHARD HOVEY**

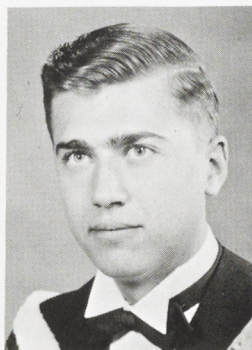
"Dick" is one of the brighter lads of IVM, whose hobby is getting 100's in his final exams. His main ambition is to beat L. Kolada in class standing (give up Dick). After graduation, he wants to go to England to study welding technology.

**GERRY KALYNIUK**

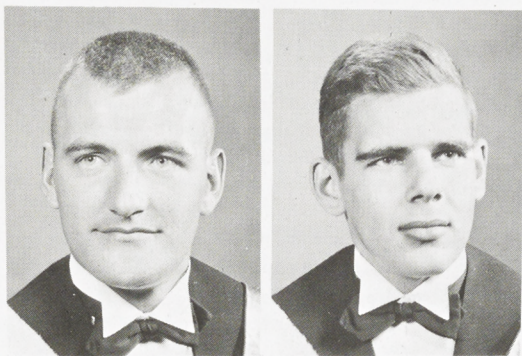
On all tours and at all parties one can usually count on hearing Gerry's beautiful tenor (?) voice (?) after he has had one too many glasses of "canary seed". Gerry plans on rewriting the music to "Always Look to Imperial . . .". To include the part of a drummer and tenor.

**DAWSON KILPATRICK**

This year's chairman of S.E.I.C. and arranger of the Brandon Affair. Dawson is a keen curler and a member of S.P.D.'s. Future holds marriage after convocation and work with DuPont.







#### LARRY KOSTIUK

"Yappy", usually seen and not heard except on tours and at Res. dances, is the only member of the big four who tries the problems before class. Larry was also the great defensive centre who almost made IVM the flag football champs. Favourite subject — fluid mechanic's lab.

#### DAVE KROEGER

The Fine Artsman of IVM — took a drama course at Banff's summer school and hopes to combine his artistic talents with practical engineering. Has toured Canada and is planning a trip overseas on graduation. He should have written his graduation thesis on air purification.

#### TOIVO KULPA

"Romanoff" spends all of his time in the summer with the Winnipeg Rowing Club. How he earns his tuition is anyone's guess. Can usually be found discussing the merits of R. F.'s "Form 100 shirt".

#### EDMUND LEA

Ed is a guitar picking residence man. His main interests seem to lie in a cool woman, and hot production cars. Are you sure you're wife's going to appreciate the stick shift in that GTO Ed.

#### WALTER LITVINCHUK

Originally from Durban, Manitoba he decided to take Engineering after his father sold the farm. His efficiency has not only astounded the Profs, but also a few of his classmates. — Seems to feel that DuPont needs his knowledge, provided the girl allows his departure.

#### CHUCK LUNN

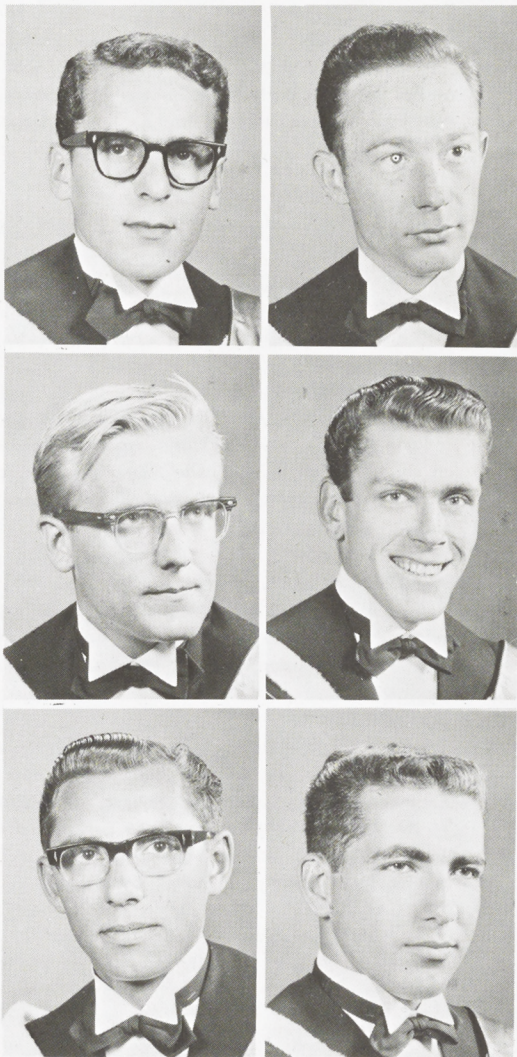
A real mover with the chicks — so he says. Constantly shattering the serenity of the drawing lab. with boisterous laughter and shouts of "Really Good". Member of Sigma Lambda Phi. Future: Shell Oil.

#### WILLARD KIRKPATRICK

Room president since first year, Willie participates in many sports, is Slide Rule editor and still manages to get good marks. Sets a bad example for carpool drivers by giving his female passengers door to door service to St. John's instead of making them walk from parking lot R. His future plans are for further study.

#### LENARD KOLADA

Lenard, known for his high marks and by his 1938 "Capone — Mobile", is the silent member of the IVM class. Lenard turned out to be a real mover at his party but ran out of wind before he blew out the candles.



#### JOHN MARTIN

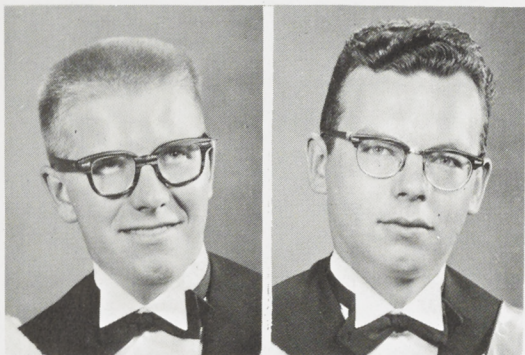
The "baby" of the class excels in athletics and has gone all out this year to win a sweater. Spends his spare time supervising the Metro Street's Salt Project and is a member of S.P.D.'s. John is undecided about employment but looks for a M. Sc. in the future.

#### ALEX MARTYNOWICZ

Alex is one of the residence lads, originally hailing from Virden. The "Old Fox" is keen on all sports and takes in at least one movie a week. He's the only Engineer with his own private hydro pole. You never did show us your car, Alex.







#### **BILL NICHOLSON**

The old man and M.C. (Master of C's of 4M is the class chief worrier — he starts three weeks in advance. Bill is keen on golf and plays a mean piano on the Friday and Saturday night Legion Circuit. Bill will work for the CNR after graduation.

#### **WALTER PEIRSON**

Walter has survived four years of residence food, which in itself should entitle him to a degree. His future role as an officer in the Air Force assures us that better direction is in store for the forces. We've been wondering what mysterious force compels him to make his weekend treks to Roland.

#### **DALE PETTAPIECE**

A native of Rivers, Manitoba, Dale lost most of his keenness after moving in with Muir but still manages to stand near the top of the class. An ardent curler, and the Town and Country's best Tuesday night customer, Dale feels the only way to keep this up is to continue with Post Grad. work.

#### **BOB REMINGTON**

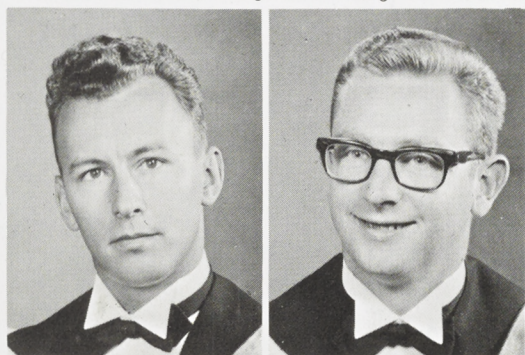
A Durban, Manitoba farmboy, "No Sin" has spent the last six years furthering his education. Although an experienced Flin Flon miner, Bob and the "silver streak" appear headed for the bright lights down Toronto way, or maybe a foreman's job at Grand Rapids!

#### **BOB RUTHERFORD**

The man of the hour, he's here one hour and gone for the rest of the day. A fine upstanding young lad who sleeps in his Engineering jacket with the Science crest, plays volleyball and travel 2,000 miles to Montreal to get geared around by a "girl friend ? ? ? " Where is he going to work? It seems he's in a "dazzling frazzling" dilemma of indecision.

#### **RICK SAUNDERS**

Rick is the cute, lovable little blond lad of mechanical, attentive in all lectures except five (out of seven?). An all round Sport, he participates in volleyball. Favorite saying, "What's wrong with fat girls — they're much more friendly". Plans to work for DuPont in Kingston checking the RPM's of nylon bobbins.

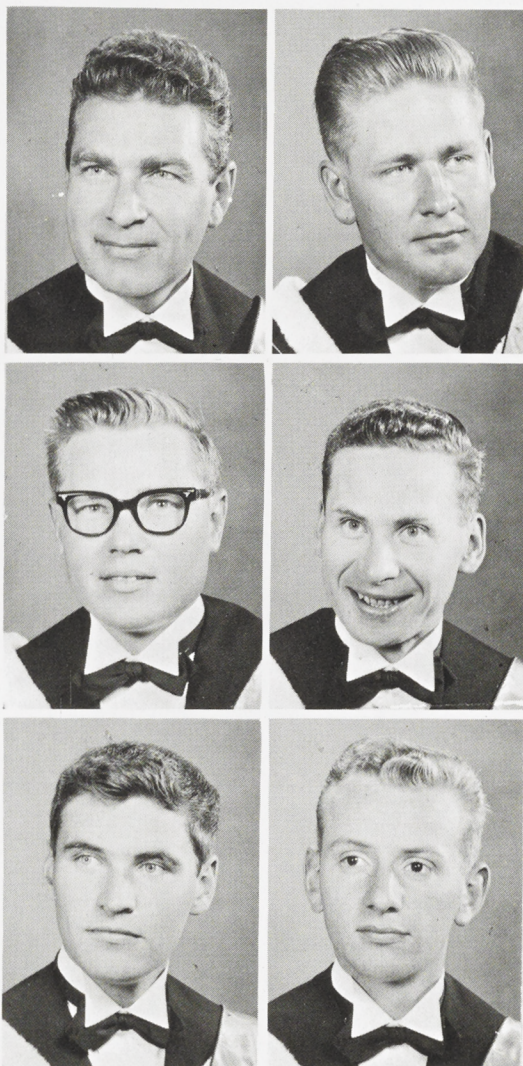


#### **JACK McBRIDE**

Jack is one of the many S.P.D.'s in 4M. Hailing from Dauphin, he has done extensive travelling during the past few summers. Too bad it had to be on foot with a level over his shoulder. Rumour has it lately that Jack is ailing since he has been making so many trips to the Misericordia. We all know better though, don't we Jack? P.F. — Nurse's aid.

#### **GARY METCALFE**

The parasite of 4M. He gained fame by C — jobbing his way to an 80 average at Christmas. Favorite expression "Who's going to buy me a beer?"



#### **DON SCHELLENBERG**

"SuperKraut" is our Judo expert and is noted for his inexhaustible supply of sick jokes. With his white mustang gone, because of an unfortunate event — it was sold, he continues his education hoping to become an engineer so that he can change nylon reels in a DuPont factory.

#### **JIM SCHICK**

During the academic year Jim was very active in intramural sports, which included being a member of the IVM flag football team that almost won. He was one of the last IVM's to discover that the "M" didn't refer to "Mechanical". Usually the cleancut type (except at queen picking parties) Jim still became a member of the IVM Glee Club.

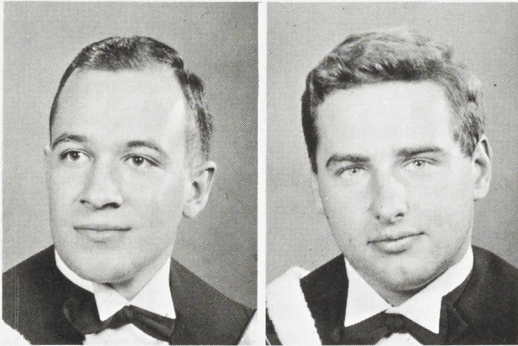
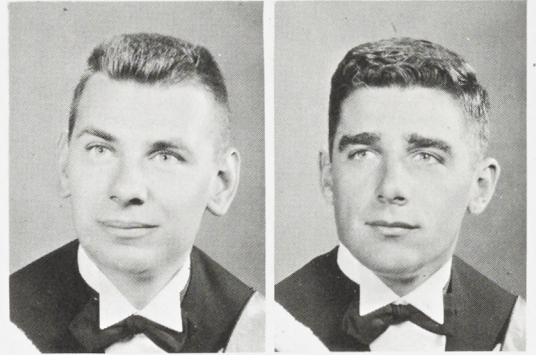


**TIM SCOTT**

Tim finally saw the light and traded his Volks for a Falcon. Thus he was able to add one more female to his carpool on his daily journey from St. Vital this year. This type of thinking shows why he obtained those high averages. Tim plans to work for DuPont (probably in the hosiery department with all the models).

**HENRY SPENST**

One of the quieter boys in the class, Henry hails from Grunthal in the deep south. A hard worker, he finds time to tool his "hot Ford" homeward every weekend. Besides plans to "bite the dust" right after exams, Henry's future is indefinite.

**DOUG STONE**

Comes from Shoal Lake. Has good success with his studies, despite the fact that he prefers sleeping to attending morning classes. He is interested in sports and participates in hockey and curling. Plans to work for Pan American in Alberta following graduation.

**JIM TUPPER**

Jimmy has a notorious reputation for being late for the third period in the morning, yet claims he never has time to shave ? ? ? A quiet man in class, Jimmy is an ardent bridge player, proficient piano player and an allstar center for the Engineers 8-man football team. Future plans: to go to a job interview.

**KURT WARNER**

A fine upstanding young man, for it's not everyone who can break beer bottles in a tour bus or tease bears into chasing him at 20mph down a mountainside in Yellowstone National Park. Kurt among other things is a volleyball player and a self esteemed "cutie pruner" (a cutie is defined as a nice girl rather than a good girl). It looks like Kurt is destined to be a draftsman for Montreal Engineering.

**VICTOR WEHRLE**

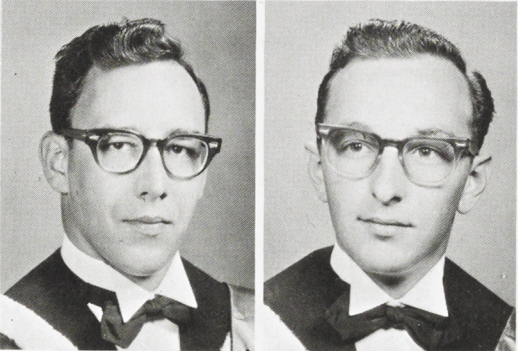
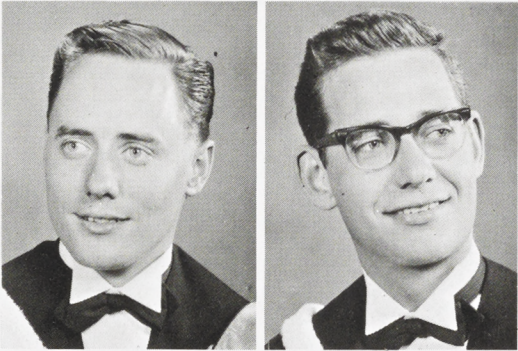
Vic is one of the brains in the class and has his sights set on a Masters degree. Not one to miss a good party we're wondering why he "slept" through the New Year's festivities. Oh well, maybe next year. Future: success.

**MARK WILKINS**

Mark is our sports car enthusiast who owns an MG that keeps tossing rods: "I only wound her up to 6000 . . . ". Mark, who can be seen smoking one of his vast collection of pipes, says his goal in life is to go to England and design a sports car engine with a higher power to weight ration than the single cylinder diesel engine in the ME lab.

**TED YELLS**

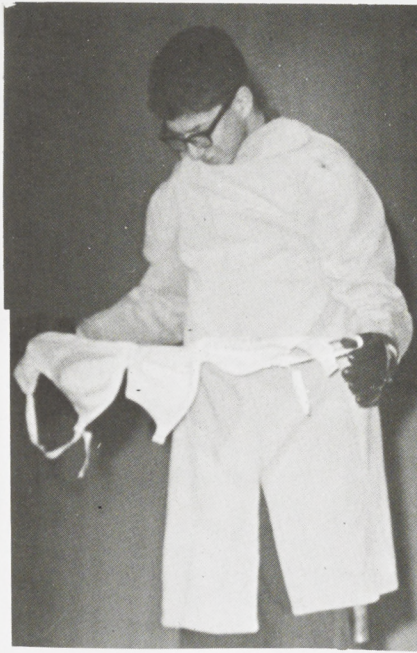
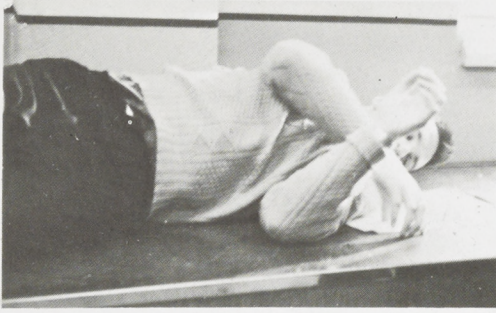
Can be relied upon for his caustic comments over coffee and has tackled a heat exchanger for his thesis topic. Ted has an aversion to doctors with hang nails. Another member of the S.P.D.'s with future plans including a Volvo, marriage in the fall and a job with DuPont.

**PETER YANITOR**

Engineering is quite proud of its first maintenance Engineering graduate. Pete gave up a budding career with Paul and Mary (Paul is here too now) but hasn't regretted his decision. This year he swept everything and he should literally clean up in the future. His future probably is in student administration.

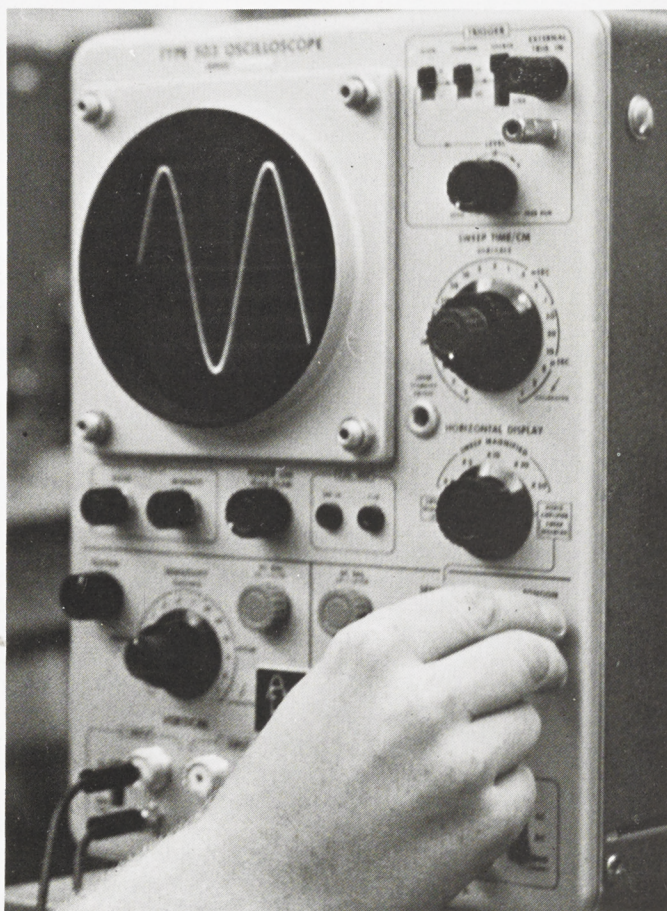
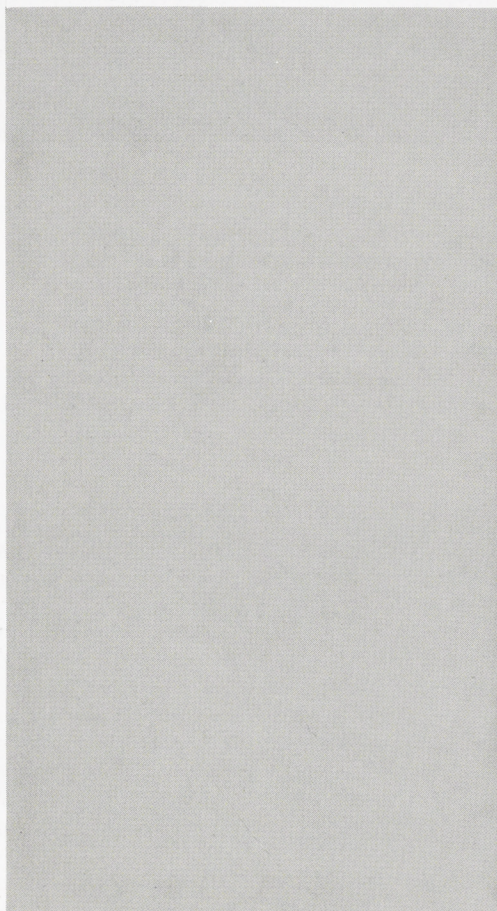






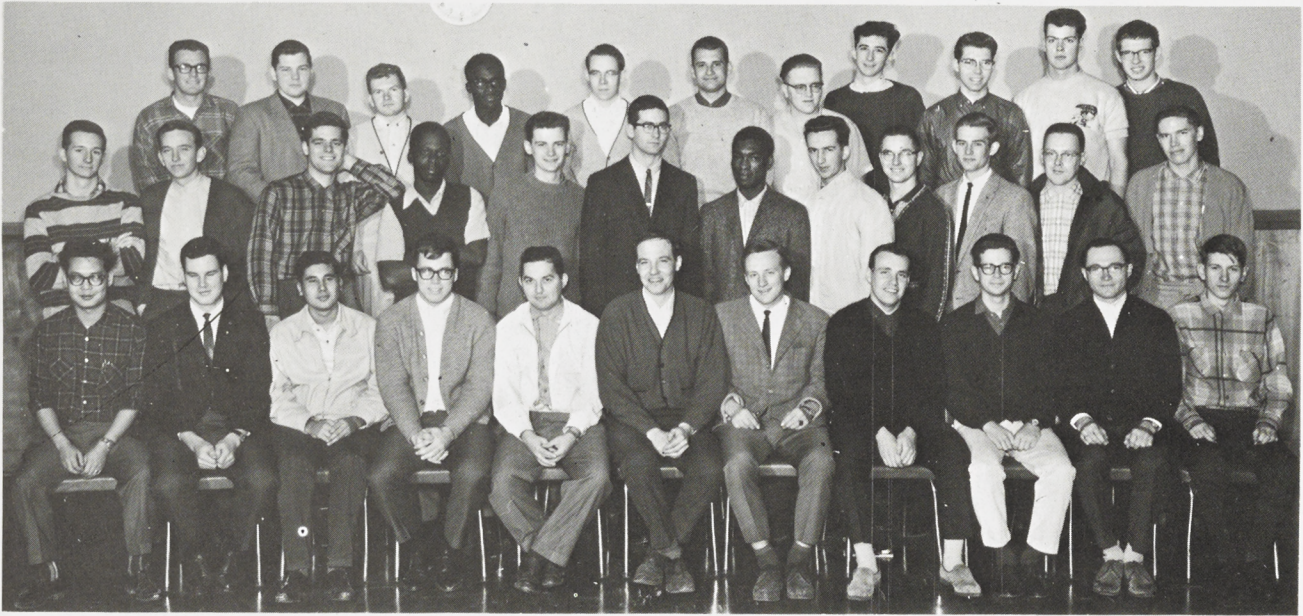


# ELECTRICAL





# ELECTRICAL III



**Front Row:** Lyn Chow, Jim Robinson, Bob Blanchard, Jim Joseph, Stan Tomchyshyn, Sheldon Fast, Horst Pacher, John Tompkin, Tom Bates, Bill Raymond, Carl Thorsteinson. **Middle Row:** Ron Kolesar, Jack Riley, Ed Konzelman, Kelvin Worrel, Glen Nicol, Bob Stott, Kobina Hunter, Dan Moroz, Gary Einarson, Pete Engbrecht, Horst Wichert, Lance Anderson. **Back Row:** Alf Goertzen, Bill Ivey, Paul Thompson, Ken Manswell, Bill Stacey, Steve Kormilo, Len Bray, Bill Gordon, Crawford Woodman, Ron Kristjanson, Dave Delaney. **Missing:** Alex James, Robert Lynch, Glenn Pattysen, Harry Prendergast, Ed Timofichuk, Gordon Waldmo, Gary Hysop.

Friday afternoons, down at the Montcalm, you can sometimes hear a degenerate mechanical or reprobate civil, speaking in slurred words to some of the younger students, telling them of an obscure group of fanatics who meet at midnight, in the attic of the old Engineering Building, to spin electrons. These men, they say, are known to the ordinary world as "electricals," but electrical engineering is a mere front behind which they hide their darker purposes (physics and maths).

Let these myths be firmly dispelled! Our class **does** not meet at midnight . . . in fact it rarely meets at all! However, it is true that the purposes of the electrical department are vague (especially to us).

In order to clarify this point, a distinguished electrical engineer and scholar from Britain lectured us on the History of Electrical Engineering

(as he remembers it). One of the immediate consequences of these lectures was a terrific regeneration of interest in Lighthouse Engineering (a fundamental aspect of E.E. sadly neglected today). A curious split then arose in our class. Our members became divided into two groups: (1) those who wished to take Lighthouse Engineering and (2) those who wished to take Civil. Disunity has long since ended and we are now united in a common hope: that the year will end before we electrocute ourselves in the machines lab.

Our biggest social event of the year was a lecture held in honour of Mr. Daniel Moroz. Unfortunately, not recognizing the magnitude of the honour bestowed him, Mr. Moroz left before the end.

In conclusion we may add: "Gentlemen, this is no Mickey Mouse course!"



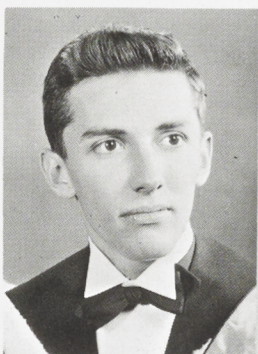
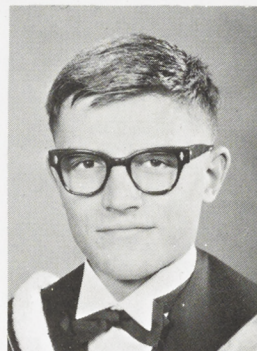
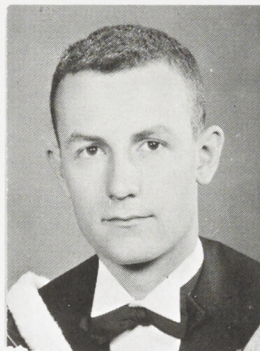
# ELECTRICAL GRADUATES

## STEVE BARBER

Steve came to us by way of Gordon Bell and United College. Astounded the Engineering world by postulating the now infamous "barber methods of thermodynamics". He allowed his love life to go completely out of hand, as a result is now engaged. Immediate plans include post grad. study at Manitoba.

## BLAINE BELECKI

Known for his cheery "Good morning!" no matter how bad the day or how close the exams, this dinner club member of the Attic Rats is bound for Northern Electric with his camera, no wife, and a supply of "puns" and "jokes". Good luck, Blaine! (and Northern Electric)



## JACK CARTHY

Generally seen trying to improve his computer program to Davidson's satisfaction but it is not likely to be. "Ambroses" backbone is a dark haired beauty named Bobby. The men at Pioneer Electric will have to listen to his corny jokes now.

## DAVE CHALLES

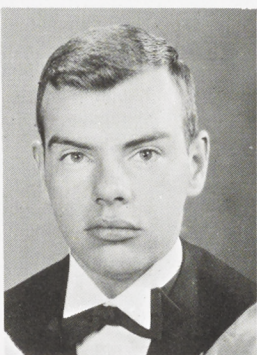
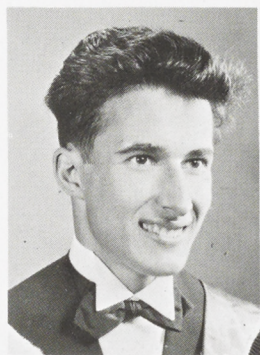
Dave rolls in from the west end every morning leaving his wife, son and dog to face the day unprotected. Spends most of his spare time shooting movies of his son. A confirmed "Attic Rat", he hopes to "move out of Winnipeg to draw nyquist plots for some fortunate company".

## DAVE CLOW

A commuter from Morris, Dave is known in class for his famous back row comments. Favourite one "That doesn't make sense". Dave's future will be spent in rebelling against the existing order of things.

## RON GILMORE

Gil hails from Flin Flon and is a member of the Sigma Phi Delta Fraternity. He is an avid "Sportsman"! Favourite expression: "Funny you should notice". Considers thirty-two hours of lectures as enough time to rest between parties. Future: selling electric toothbrushes for G.E.



## MORLEY GOLDBERG

Morley, a girl chaser, athlete and beer drinker, learned how at West Kildonan Collegiate. Over the years he has been active in UMES and fraternity. Mor plans to lend his many varied talents to IBM in Vancouver upon graduation.

## RON HAAS

A man of many varied interests and talents. Ron is as sincere a friend as can be found. He plays the accordion well, and acquires some culture at M.T.C. The future with M.T.S. looks bright (lit up by a big brass ring).

## JOE HEBERT

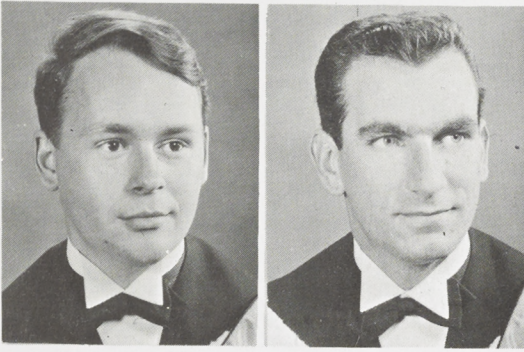
Joe spent his younger days as a border bandit in Emerson, before he became a connoisseur of fast cars, fine whiskies, and slow women. Mark of distinction: he owns his own CRO and never misses the 9:20 coffee break. Future: three years training with CNT in Toronto.

## DON HORTON

Ripley is planning a new page in next year's edition, and Wiederhold is struggling to regain his faith in humanity, ever since the Pinawa tour on which Don displayed his pipe. Besides producing Winnipeg's smog, Don plays volleyball and figures on working for Northern Electric, inking in their title blocks.







#### **WAYNE JOHNSON**

Wayne comes from Selkirk, where he went to grade school and later S.C.I. He has had a very good scholastic record. It's quite hard for him to decide, however, whether to go out and work for a few years, or stay now to do post graduate studies.

#### **KEN KIAZYK**

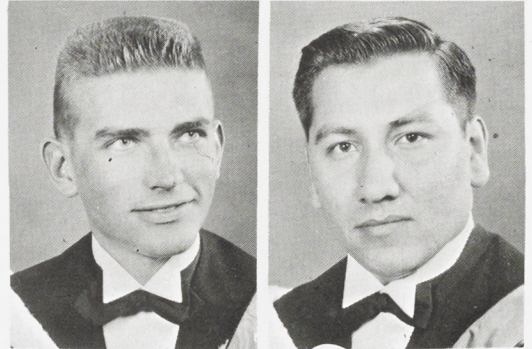
From Kirkland Lake, Ontario, Ken is another of the Power men. Favorite amusement is going to Residence dances. Didn't quite make it one night when a parked car hit the Volks in which he was riding. Future—Ontario Hydro.

#### **SANDY HUTCHINGS**

Sandy is the tall, quiet type (quiet, except on tours to Pinawa) who seems to enjoy skiing. He is well liked in spite of the long words. Sandy wants to be an I.B.M. man but may end up with Northern Electric.

#### **DAVE JARDINE**

Originally from Vancouver, Dave now commutes from St. James. A frequenter of the International Inn, Dave is a bopping dancer who seems to know all the girls, especially Power Prom Queen Candidates. He fluked an astronomical wage from MTS.

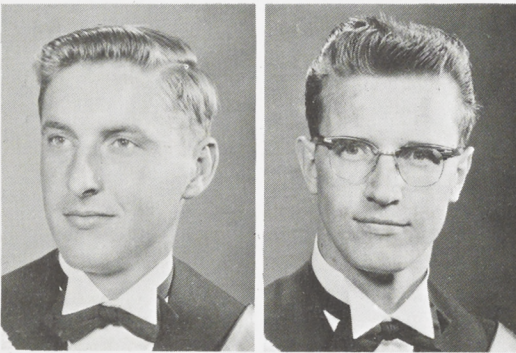


#### **STEVE KRYWY**

If genius and insanity are separated by a fine line Steve crosses the border about twenty times a day. His double whammies have lasting effect. Steve is an environmental error in all experiments but a champion curler. Will be unleashed upon industry in May.

#### **THOR KVIST**

Married, no children, and an ex — EP, Thor is one of the brightest (and quietest) students in IVE. Thor will spend one year at MTS and then hopes to return to U. of M. for a Master's degree. Good luck.

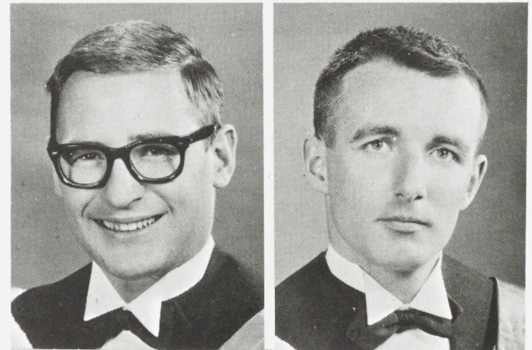


#### **DICK LeBLEU**

Hails from St. Boniface. Loves a good argument anytime. Extra curricular activities — photography, music, and wife, or is it — wife, photography and music? Confirmed member of the Attic Rats Club. Hopes to solder resistors for the Department of Transport.

#### **DAVE LIVINGSTONE**

One of the fathers in the class, Dave is also married. After an unsuccessful attempt to organize a union at Thompson, Dave consoled himself by getting married and coming back to finish his studies. Future: telecable and wire.

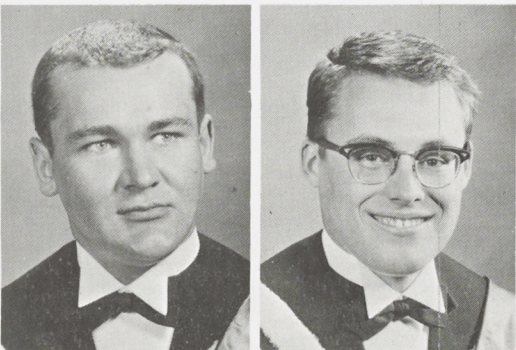


#### **AL LOEWEN**

"Gypsy" has no vices and is very active in sports. He always intends to go to parties but never gets there. Gypsy is a nomad. Nobody knows where he is! Past, present and future unknown.

#### **ROGER LUDWICK**

Roger, a strong supporter of the Root Locus Club, hails (although he is not bilingual) from St. Boniface. In between bowling and fixing his car he finds enough leisure hours to do reference work in Hi-Fi. He plans to do research at the Dryden golf course and work for the paper mill in his spare time.



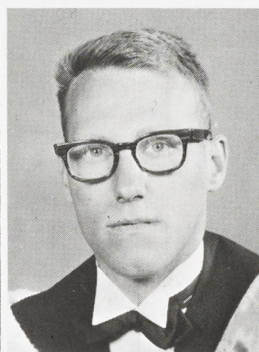
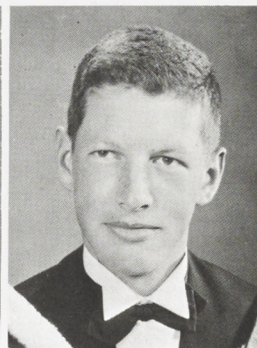
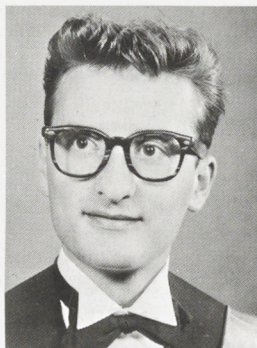


**EUGENE MANZIE**

"Gene" hails from Selkirk and has been supporting Transit Tom since his '56 Plymouth gave out this fall. He wonders why everyone is worried about his L.C.A. term marks. Future: marriage then three years with the RCAF in telecommunications.

**GORDON McLURE**

One of the Power men, Gord graduated from Vincent Massey. Although best known for his acting ability, he also excels in sports especially basketball and volleyball. A good debater, and the quick wit of the class, Gord's future with G.E. is very bright.

**JACK NEWHOUSE**

Jack, our playboy curler has spent many hours enpounding the virtues of C — jobs and parties. Jake, a charter gap-filler, is also an expert in nursing education. This Kelvin graduate plans to work for IBM in Vancouver.

**BARRY PASK**

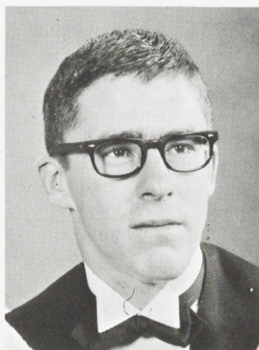
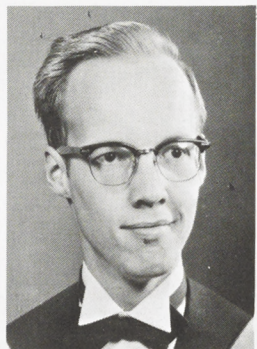
Another ex—E.P., Barry always is at the top of the class. Another "Attic Rat", he likes to sip lemon juice. A member of the "Dinner Club", he suffers through the smoke and filthy rubs. Future: Post grad., then research for S. B. Labs.

**JAMES MIGEL**

Jim came into the world at Gimli where he received the Governor-General's Medal before he came to Engineering. Here he strived for three distinctions—obtaining an E.E. degree, seeing all televised N.H.L. games and finding a girl for the Grad's Farewell. Success is assured.

**BRIAN MILLS**

President of the Root Locus Club, a keen hockey player, and one of the few to host more than one class party and not be disowned by his parents! Although he slept through most of his 8:30 classes, this reformed (?) C-jobber was top in the IIIE class and won an Isbister scholarship. Future: N.R.C. for the summer, then back for Post Grad.

**HARVEY PERMACK**

Harvey is a St. John's grad. who's only interest has seemed to be girls. An all around sharp guy, sharp dresser, and playboy, Harvey plans to make DuPont and the City of Kingston happy by gracing them with his presence upon graduation.

**JOHN POUSTIE**

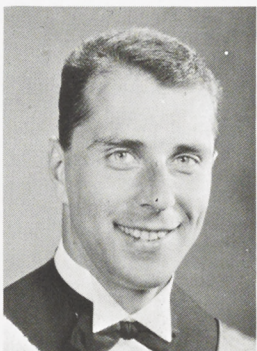
Our WICFU all-star is also a charter member of the gap-fillers. A Power man whose motto is: "Each man is to himself an island". John is very active in volleyball, basketball and track and field. Future—Pioneer Electric.

**KEN REKRUTIAK**

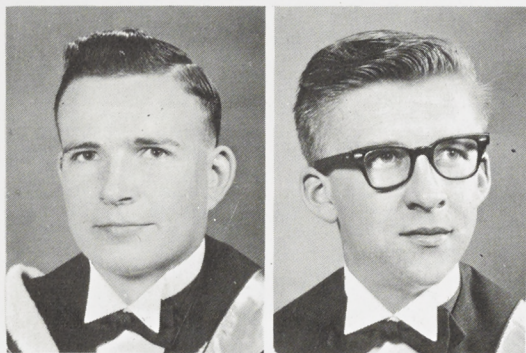
A living example that North End boys do make good, "Rugged" is another of 4E's contributions to the Football Bisons. Ken has been on UMES council for four years and served this year as Business Manager. Although he participates in all interfaculty athletics, he has been outstanding in handball and "holding his own". His future lies with I.B.M.

**GARTH ROBERTS**

Garth comes from Brandon and now makes the long trek to class from St. Boniface. One of the married men in the class, he is free with advice for the room bachelors.





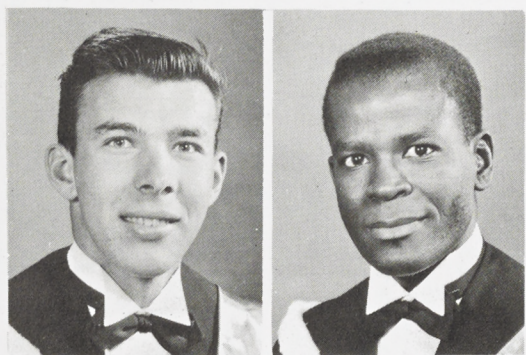


#### **JUERGEN SCHWAHN**

One of the top students in the class, Juergen is also Engineering UMSU Rep., IEEE treasurer and enjoys photography and the theatre. Still finds time to occasionally partake of the staff of life with the gapfillers. Future: Athlone Fellowship in Britain.

#### **ED SHWEDYK**

A country lad from Theodore, Saskatchewan, Ed has had considerable scholastic success, thus maintains his INCO scholarship. He will have to get a job soon to pay for his '65 Mustang. Future plans: post grad. in control systems.

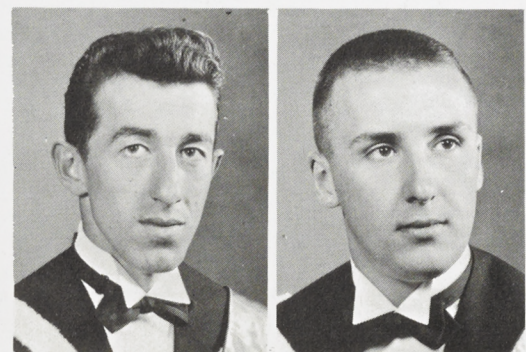


#### **JIM STEBBING**

One of the five power men, Jim has found enough time to build a rumpus room, master the Ukelele and still obtain his usual good marks. Future plans include work with G. E. this summer and then post graduate work this fall.

#### **KEN STEIN**

Suave Ken displayed unsuspected talents as guest speaker at the gap-fillers. Alias J. J. Forbescine, he is the only class member to have a ski lodge in Ottawa. Pastimes include skiing, golf and girls. Future—IBM, in Ottawa naturally!

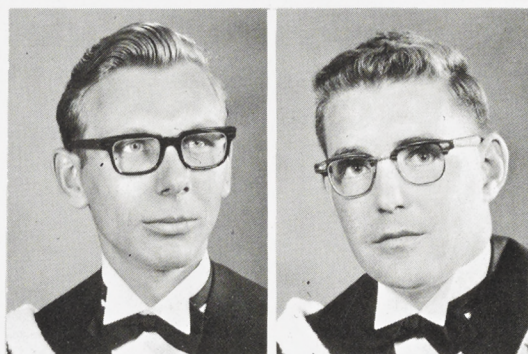


#### **DON ROOT**

A native of Emerson, Don curls for amusement. He occasionally goes out with girls but only because it is expected. Favorite expression: "Let's go to the Big M". Future—probably with G.E.

#### **ED RYMEK**

Ed is one of the old married men in our class. Originally from Gravelbourg, Saskatchewan, he moved here because of our balmy winters. He plans to get away from it all by moving to Ottawa and working for the Civil Service.

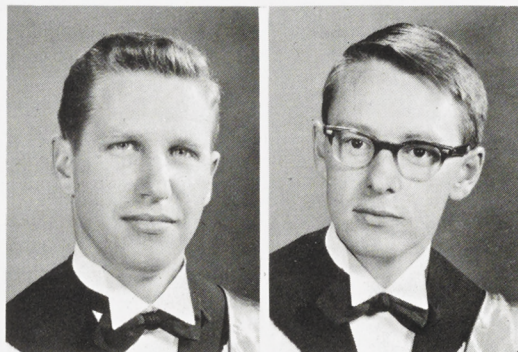


#### **DENNIS SIMPSON**

Born in Brandon, educated thereabouts — taking the long term plan in E.E. believes in long engagements. But we don't think he'll last long after graduation—noted for his pensive moods and missing mitts.

#### **NEPTUNE SMITH**

Neptune hails from Trinidad, the "Land of The Calypso" where the "winters" are 70 degrees above zero. He wonders why winters in Canada have to be so cold. One of the newlyweds of the class, he can often be seen at the important meetings of the Gap Fillers club. Future plans include designing substations at the Manitoba Hydro.



#### **ROD VAN LEEUWEN**

Rod is one of the lucky few with a hard working wife to support him. Among his many positions include chairman of the pole-zero society, avid car wrecker, and coffee mug engineering. Destined to be a fine engineer, his immediate future is with CIL.

#### **MONTE WIEDERHOLD**

Monte, one time E.P. gone electrical, active (gazzling) member of Sigma Phi Delta, part-time debater, keeps the wife at home by hiding her shoes in the winter and getting her pregnant in the summer. Went broke buying cigars in December and sold his soul to I.B.M.



**DAVE WOOD**

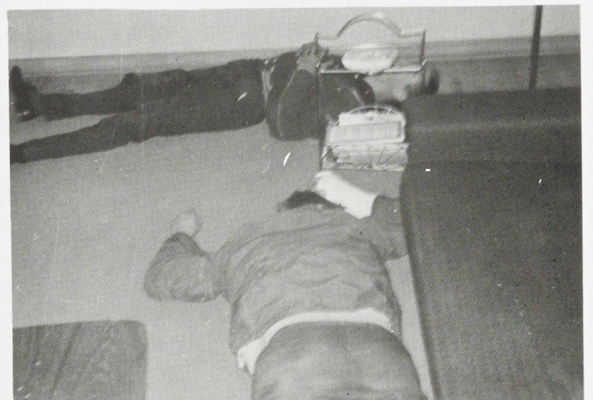
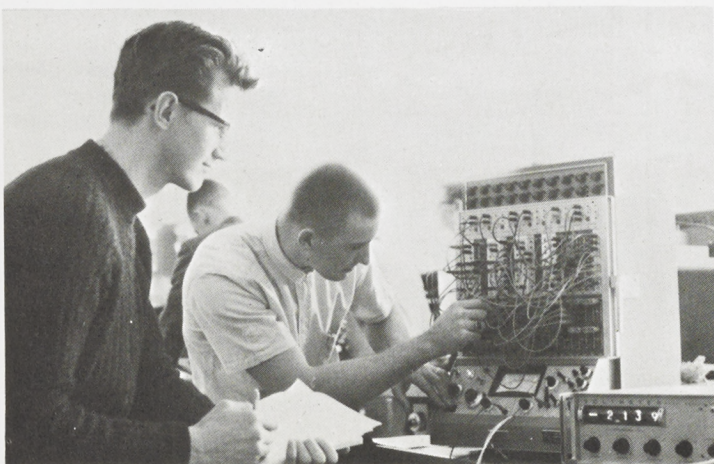
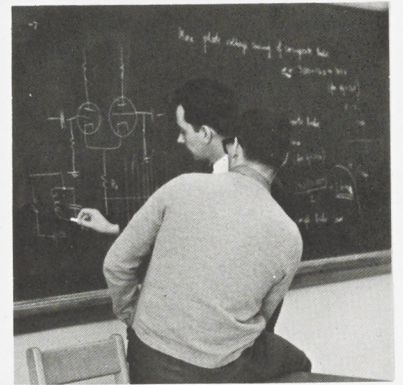
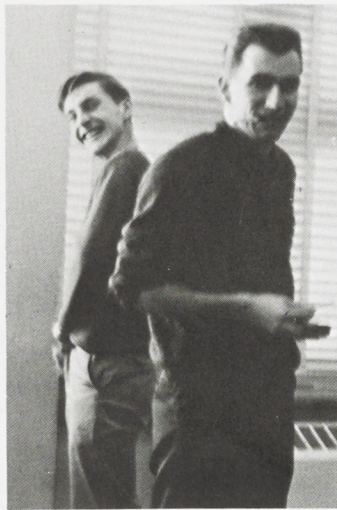
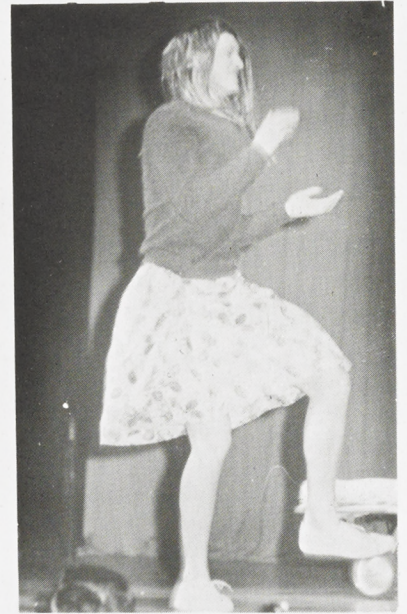
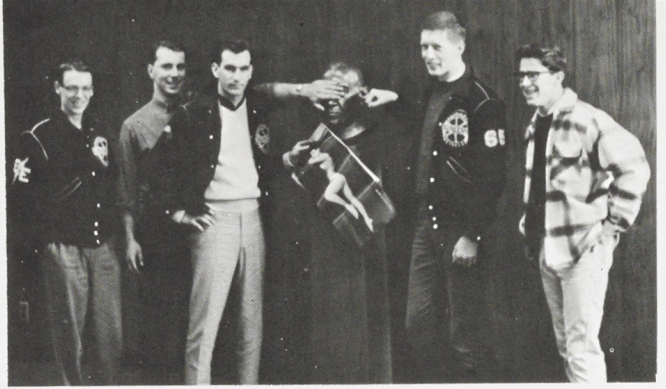
Dave is one of the more versatile members of the 4E group. This year's Drama Chairman, he was the driving force behind the Power Prom Pep Rally. His interests include singing, acting, The Glee Club and (un) balance judo. Future—counting his money on a computer.

**JACK YOUNG**

Jack is the optimist of the class. He also has the newest Engineering jacket in the class because he kept putting off buying one until he was sure when he would graduate. Jack is married, has one son, and will work with D.O.T. after graduation.

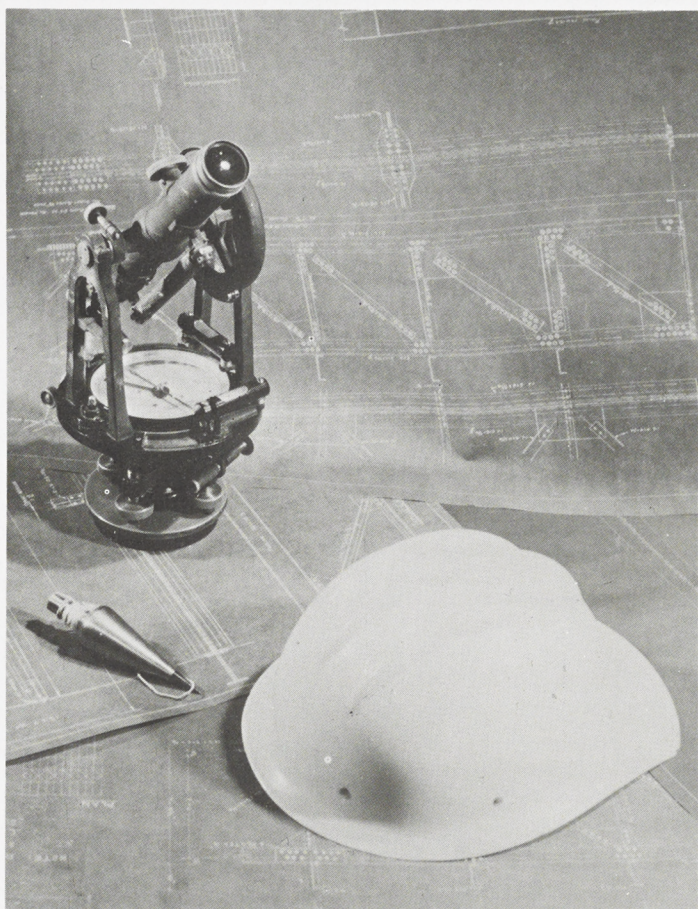






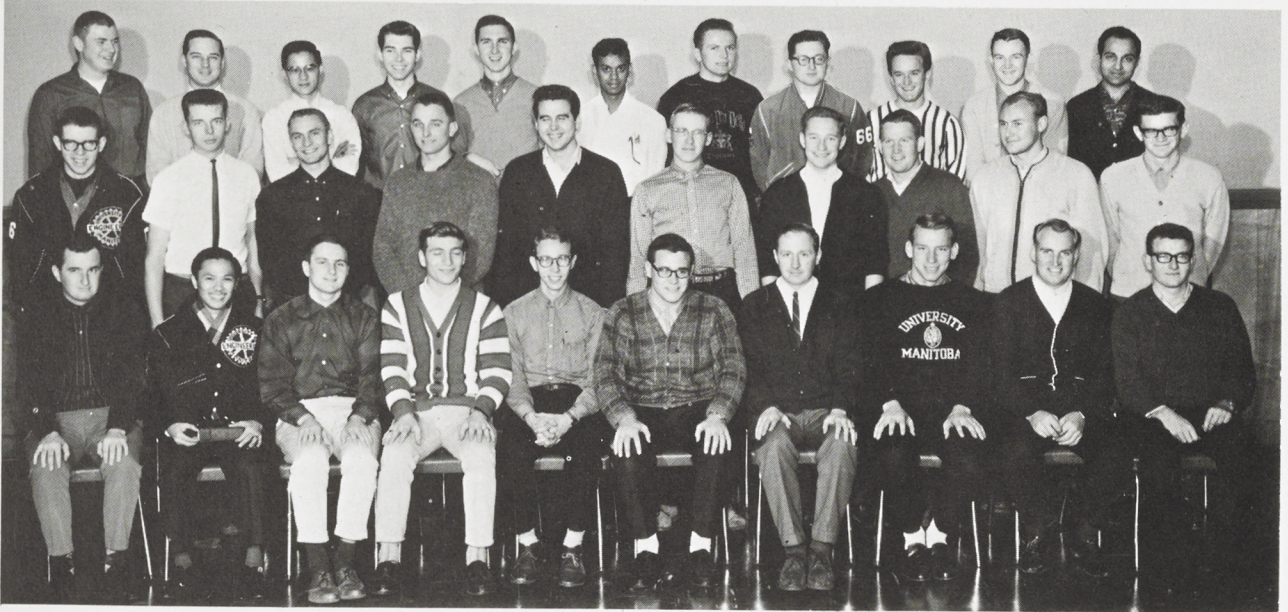


# CIVIL





# CIVIL III



**Back Row:** Tom Norman, Murray Carvey, Lester Leung, Marvin Titlipp, Bob Mills, Nazirali Nabbie, Dieter Lindner, Cam Andres, Guy Cooper, Bill Wiesner, Jolilur Rahman. **Middle Row:** Dean Sharratt, Ray Van Cauwenberghe, Al Bischoff, Frank Babienko, Don Hnatko, Bill Matthews, Ernie Kurtz, Barry Jorgenson, Don Hanson, Bob Gibb. **Front Row:** Rudy Triffo, Kim Chooyig, Bill Boyanisky, Cliff Tottle, Larry Ife, Bill Wilton, Bill McDonald, Wim Veldman, Jim Gill, Dave Hicks. **Missing:** Ray Storoinski, Rick Johnson, Bob Buie, Ray Bodnaruk, Ferg Macintosh, Gerry Pyper, Clair Shoemaker, Jake Schreuder, Alex McLellan.

The 1964 - 65 Civil Engineering class is a strange collection of drinkers, athletes, and keeners.

First term was rather quiet socially, the highlight being our astronomy lab in October. Our cloud dance failed so most of our observing was done from the Montcalm. By the time we left our observation posts, many of us were seeing stars but they weren't in the heavens. Who will ever forget Triffo's rendition of "He".

Second term holds a lot in store for our class with everyone looking forward to a brewery tour, a class stag, the annual bonspiel and of course the Power Prom.

Academically, Civil III will not be denied. We are determined to rise victorious in the face of opposition such as mankind has never seen. Eventually we will find out if ramp functions are real, if roads are built in the middle of no-

where and if Archimedes really did cry "Eureka". In the meantime, we all hope to learn just enough to pass so that we will write IVC after our names next year. Statistics show that we have the highest marks in IIIC at Christmas and surprisingly, for the first time in three years, there were no Christmas graduates.

Athletically, III Civil is unbeatable. We have representatives from our class in every sport on campus. At present, three rinks are still eligible for the inter - faculty curling championship and our hockey team is about to set itself up as the indisputable Engineering champion. Also our class is liberally endowed with flag football, volleyball, basketball, handball and rifle club enthusiasts.

The entire class feels that this has been our most enjoyable year and has been proud to be part of the 64 - 65 III Civil class — a great bunch of men.



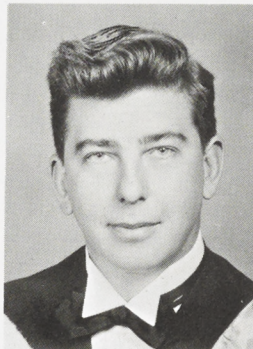
# CIVIL GRADUATES

## FRANK BARLISHEN

"Barnhead" comes from where "the girls are"; Winnipeg Beach. He didn't like his former roommate so he got married. He is the only member of the T.P.M. who could carry on an audible conversation with himself. Probably future: checking golf courses for lost balls.

## VIC BECKER

Graduate of Daniel McIntyre and one of IVC's married men. A keen athlete and student who when not found in the gym or Bridge Design Lab. can be found tipping a few at the big "M". First half of the partnership of "Rejects Incorporated". Future uncertain but he'll be a success at whatever he tries.



## WALTER BILOZOR

Walter manages to find time for the odd fourth year civil class when he is not marking first year problem labs. His favorite expression is "Don't forget you play volleyball at noon". After graduation he plans to work in the Water Resources Branch with possible plans for a masters (in sewage treatment or . . .)

## LAWRENCE BOROWSKI

A native of Fork River, Lawrence sits in the front row in classes and is the first to complete his assignments, thus has the best C-jobs. A veteran of three summers in Churchill with the National Harbours Board he hopes to land a job with the Department of Public Works.

## DAVE CAMERON

"Big Dave" hails from Waskada, Manitoba, is active in flag football, volleyball and a proud member of the "Ankle Runners". Although usually a fast efficient worker he was the second Scotchman riled by A. J. Future is with PFRA.

## ROMAN CHRISTIUK

One of the quieter members of the class, Roman's chief regret is that he doesn't live in the north end. Favorite course: Philosophy. Probable Fate: Working on the philosophical implications of bridge design for the Manitoba Highway Dept.

## FRANCIS CLARKE

Escapee from Laura Secord and Gordon Bell, Greg does most of his problems "by inspection" — of everybody else's work. He is the decrepid member of "Clarke and Ennis". Greg who is an ROTP cadet has "volunteered" the next three years to the army. Motto: anything worth doing is worth doing to excess.

## DENNIS CLEVE

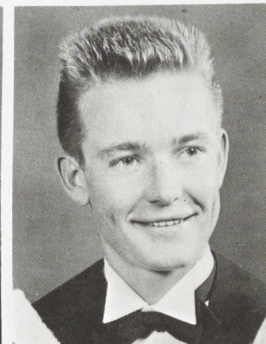
Dennis is one of the few in IVC graduating on the four year plan. An active member of Delta Kappa Epsilon, he wants to look for oil but will probably make his first million as a sampler for Maxwell House.

## ALF CORNIES

Alf is one of those people that always has a minute for everybody. Academically, athletically, and socially, he is highly skilled; and will surely have a successful engineering career.

## WAYNE DRAPER

A native of Virden, Wayne is quiet and reserved by nature, but highly explosive when it comes to obtaining top grades. A keen sports enthusiast who enjoys the post game training sessions at the "M". Claims presidentship of a group of individuals unaffected by the charms of the opposite sex. Future plans: work for the Civil Service.





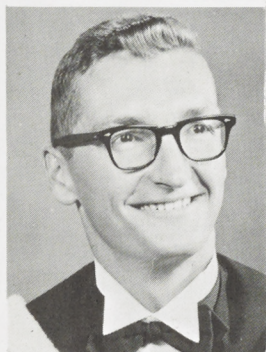


#### BRIAN DUMAS

Brian was active in student council work and intramural athletics throughout his five years in Engineering, and a member of Sigma Phi Delta Fraternity. Brian won an Athlone Fellowship this year, and spends most of his time packing his bags when not at the "M". Should make a big hit in England in his cowboy boots.

#### JOHN DYCK

A native of Winkler, John is a member of IVC's incomparable "ankle runners" hockey team and a supporter of gatherings at the Big M. Probably destiny: to drive his Chev. into a lamp post while watching women on the street. Immediate future: PFRA in Regina.



#### DAVID ELLCHUK

A native of Elphinstone, David is one of the elite four year men. He is active in flag football and volleyball. When David stops thinking about girls he thinks about Water Resources.

#### WALTER ELLISON

Walter used to drink with his classmates, participate in sports, chase girls and go to the occasional class. Then he got married. Now he doesn't participate in sports or chase girls and he goes to all his classes.

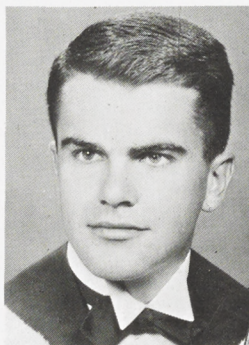


#### JERRY ENNIS

Gerry "Moze" Ennis is one of the prospective Army types. Gerry who hails from McCreary is a member of the "Clarke and Ennis" squad and does considerable extra curricular research in certain fluid problems. An avid C-jobber Gerry participated in flag football, hockey (ankle runners), volleyball and "speed bleeding".

#### BOB FOSTER

Bob graduated from Daniel McIntyre and is an active member of Sigma Phi Delta. Bob has a keen interest in Bridge Design and Control Surveys. Very active in sports and has earned the title of "Mr. CoOrdination Plus". Favorite expression: "What pages did we take". Upon graduation, he plans a few months rest and then marriage.



#### ROBERT FRIESEN

Well known for his curling prowess, Bob is also active in intramural sports. Being the youngest in this year's civil class, he is prone to a good natured kidding which is more than offset by his keen sense of humour. Current favorite expression "so I said to myself . . ." Probably future: chief rock inspector for Elmwood Curling Club.

#### FRASER GARLAND

A non-keener who is usually playing bridge at UMSU, however never seems to make a contrast. Goes on many weekend skiing trips. Future plans: early retirement on the French Riviera.

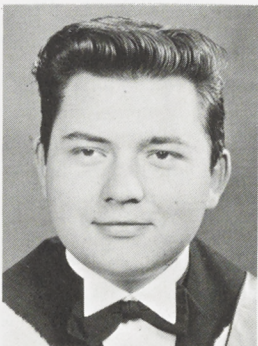
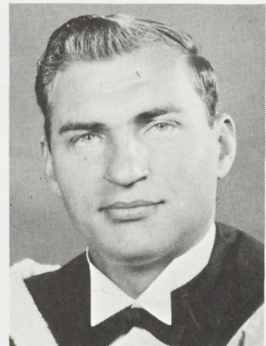


#### ALFRED GRETZINGER

The big brainy blond from St. Vital hopes to go East, get married and introduce the metric system. He is a partner in crime with Roman who appears to help Alf in designing various bridges. Motto: If Mindess can do it, I'll get it done.

#### GENE KARLIK

A native of Minitonas who has been near the top of his class ever since his entry into the Halls of Industry. Claims his interests are not at the Montcalm, but has frequented the International Inn. Immediate future includes a one year holiday in Europe.





**ROBERT KAVANAGH**

Bob is a Winnipeg lad, recently rated in the top academic 10 by A. J. Surveys, Inc. and has tempered his education with summer employment with various progressive, modern match supplying companies. He picks up his pocket money by logging test holes. Future: post graduate studies in structures and or consulting.

**LANDIS KRAUSE**

Junior member of K & S, Landis spends most of his time playing cards and planning socials, but still manages top marks. Only member of the class to get caught by a truant officer in the pool hall. Future probably lies with an oil company in Alberta.

**TED LITWIN**

Ted is a five year man who claims various sport records but was so disappointed this year with the calibre of hockey in Junior C that he quit the "ankle runners". Ted is one of the leaders in the class — to the 'M'. Plans to travel with Germany as his first stop.

**CORNELIUS MARTENS**

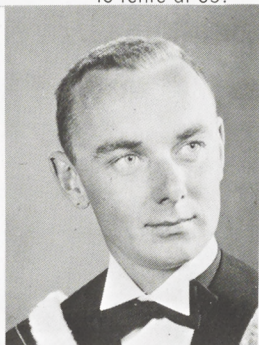
His personality and ideas in business are his keys to success. He speaks German, some Spanish, operates his own business during the summer months and has secured a position with the Civil Service. His plans for the future include Business Administration, travelling, and a top place in the business world. Pet dream: to retire at 35!

**DOUGLAS MARTIN**

Doug is one of the rare ones in our class who is graduating before he is 21. This still doesn't prevent him from tipping a few at the big "M". He is a member of the Theta Nu Fraternity and a regular at the gaming salon of K. & S. Future is undecided but will probably go East.

**CRAIG McDONALD**

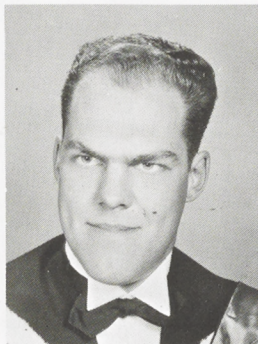
Craig joined the ranks back in second year, after completing his first year of Engineering at Lakehead College in Fort William. Married three years now, with a brand new daughter in August '64, he appears headed for a very successful career. His perseverance has proved that he could do it.

**BILL MELKO**

Bill is from the home of the Trappers Festival where he is considered a brother to all. In Winnipeg Bill is famous for his candle light suppers and blond tornadoes. Bill, grand impotentate of the T.P.M., is always glad to help with the class spirits especially at the Power Prom.

**BARRY MILNE**

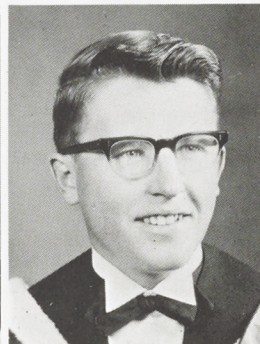
The grey-haired wonder from Gladstone, Barry excels at drinking and all kinds of parties. He wasn't at all impressed with the Grand Rapids power project. Future: probably with Manitoba Highways Department. Ambition: live until he's thirty.

**SYDNEY MINDEESS**

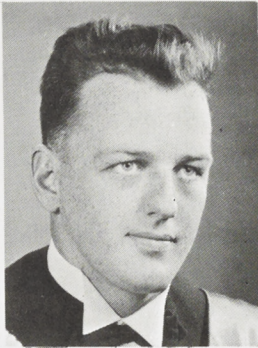
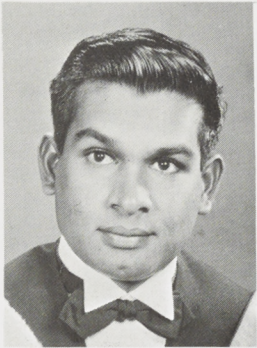
The only person to receive an Arts and Engineering degree the same day. Hopes to take post graduate work and become a professor. Sid's only difficulty is shaving and doing original work in soils lab. Future: very bright.

**ANDREW MUIR**

Andy, better known as "Big Red" hails from Elphinstone. Andy is active in athletics and enjoys membership in the Friday afternoon club. Red abandoned residence after two years to enjoy the conveniences of apartment dwelling. Andy's future may include post graduate studies.



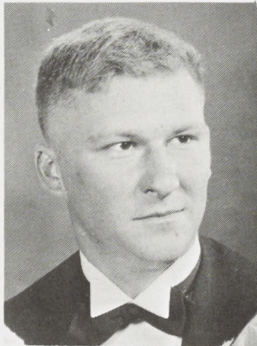


**MAJEED MUSTAPHA**

Maj from Trinidad is one of the newlyweds in the class. Interests are Soccer, cricket and tennis. Future plans: to seek warmer climates.

**RAY PENTLAND**

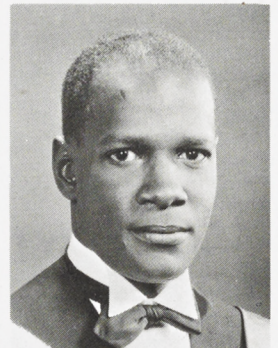
The last of three very civil "Peanutlands", Ray has had no trouble obtaining C-jobs. He returned from the Nelson River with the biggest beard and the biggest thirst in the room, now being quenched regularly at the big "M". A four year card player, Ray will work for P.F.R.A.

**JOHN PICHURSKI**

John is probably better recognized for his extracurricular activities than his extraordinary scholastic endeavours. His high spirits and determination either on the ice or down at the office will never cease to amaze us.

**KENRICK PILGRIM**

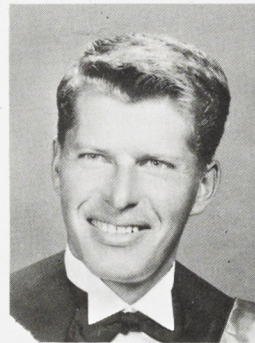
Ken comes from the Land of the Calypso and was a stalwart of Engineering soccer teams for the past four years. Some interests are volleyball, badminton and cricket. Commonly known as "The Grim". Future: back to Trinidad.

**ALFRED POETKER**

Coming all the way from Lena, Al left a lucrative farming operation to join the ranks of the Engineers. Interests range from "ankle runner" hockey to entertaining nurses. He was refused a job for fear he might suddenly withdraw and enter the ministry.

**GRANT RITCHIE**

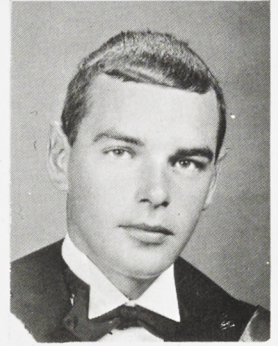
An all around nice guy, Grant thinks that Physics is . . . He can be found during lunch time at the Residence cafeteria with a certain friend. It is suspected that he may be ready to pop the question. The future may find him as a house builder i.e. hod-carrier.

**DICK ROBERTSON**

Dick who comes from Flin Flon is known for his philosophical questions in class. Dick is a five year man but his main interest is in mining since first term results as he planned to major in sewage treatment until the big "shaft". Future is undecided at present but plans to attend the annual Flin Flon reunion for years to come.

**DENNIS ROHNE**

A charter member of the "Seven-Up" club since its formation last year, "Deeno" spent his last three summer jobs sleeping on top of railway cars. Started out as one of the "ankle runners" but had to drop out as he couldn't find his "hockey stock" after a trip to the "M". Future: floating paper boats for the government.

**HOWARD SCHEITLER**

Howie who hails from Plumas, is a likeable easy going fellow whose favorite pastimes are losing money at noon hour and trying to talk John into going to the big "M". His plans for the future are uncertain. Interestingly Howie, the road to Plumas doesn't go through Carberry.

**SID SHEPS**

Engineering's "Dry" humorist highlighted his university life by losing his pants for "the Engineers" (on the football field). He is Senior Stick but still is active in sports, social and fraternal activities. Future undecided but preference for travel and the vocation unusual.



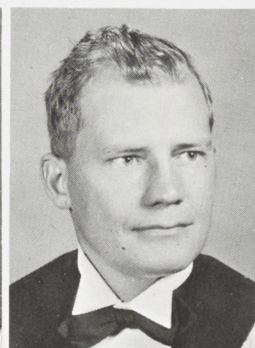
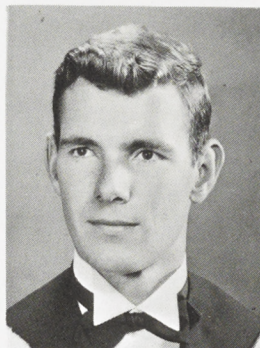


**GRANT SMITH**

Grant, whose favorite saying is "I just can't get worried" apparently never does. He is an avid skier, a member of Phi Delta Theta and the only multi-lingual member of the class. (Speaks fluent German, writes French and nods in English.) his bright future includes marriage, moving to Vancouver and employment with I.B.M.

**WILFRED STANGE**

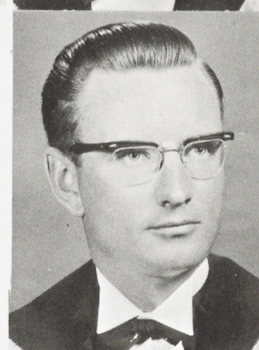
Wilf deserves a lot of credit for his university achievements while raising a family of three (also has a wife). He made a successful debut this year in inter-class debating. Wilf is the heart of the bridge design class; if he is "happy", then so is V.L. Main ambition: to get his car out of hock.

**ANDREW STAUDZS**

Junior member of K & S, Andy will be leaving the firm in May to take up a more demanding post as resident Engineer for Cutbank, Saskatchewan. His smiling face is a verification of the statement "Lucky in love, unlucky in cards". Andy's presence as losing member of the Seven-Up club will be missed.

**JON STEFANSON**

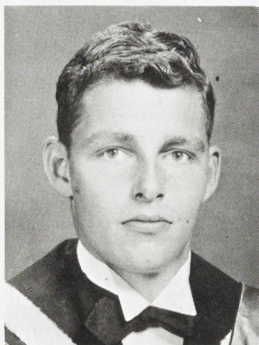
Jon comes to us from Steep Rock where he completed his high school. Failing to find sufficient challenge in the field of stationary engineering, he decided to join the ranks of the Civils. Future: undecided as yet but with his genial nature and perseverance, Jon is sure to succeed.

**JOHN STODDART**

Despite what the Electrical Engineering department says about John, his universal sex appeal makes him adored by all. "Stotts" is Civil's answer to Wilt Chamberlain and Pete Seeger in one cute package. Probable Future: Nurses aid.

**MARTIN STOLLER**

Known to a certain professor as "the short guy with dark hair and glasses", Marty is an active member of the seven-up club. Marty's favorite pastimes are, collecting interviews, bridge design, drinking coffee, and talking about his summer job at Clear Lake. Marty should have no trouble attaining success in the future.

**HAROLD SYMONDS**

Harold came from Kenora in 1959 and played his way through first and second year. He consequently returned after a year's absence to work his way through second, third and fourth years. Active in volleyball and basketball. Before returning for fourth year, he traded his car in on a nurse. Future in design office at Dominion Bridge.

**JOHN TOYE**

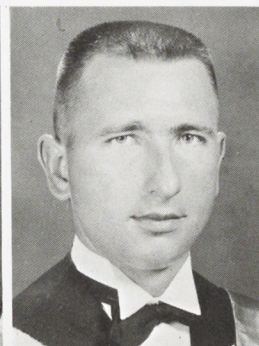
John "shick ping" Toye is the only Icelandic Chinese on the continent. Around class he is known as "Sam Ting". One of the members of the sanctioned T.P.M. Fraternity. Although ambitious, he has one downfall — answering "sob letters".

**MEL TRETHART**

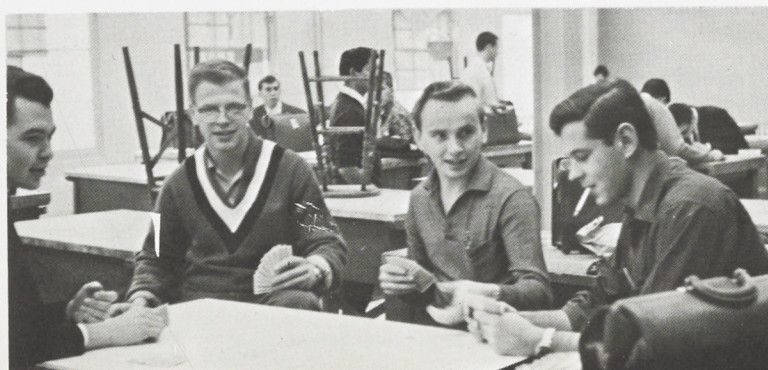
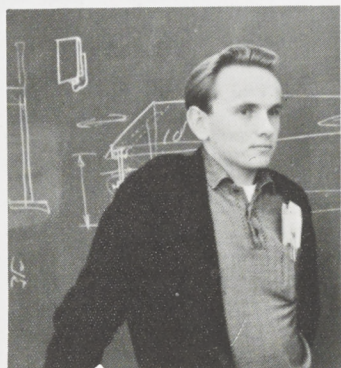
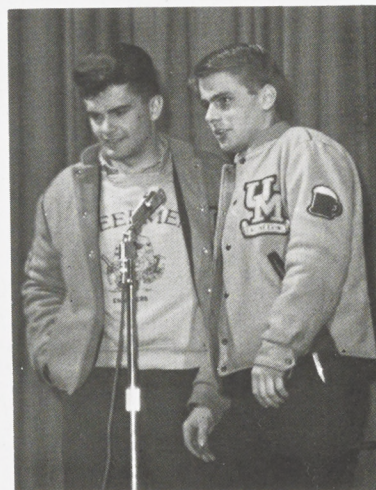
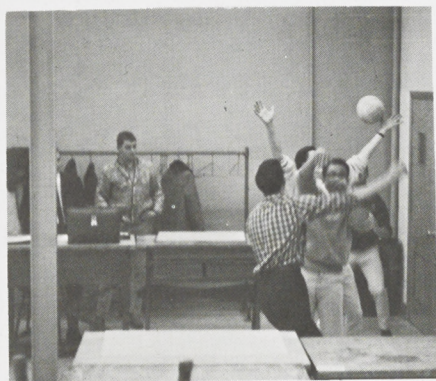
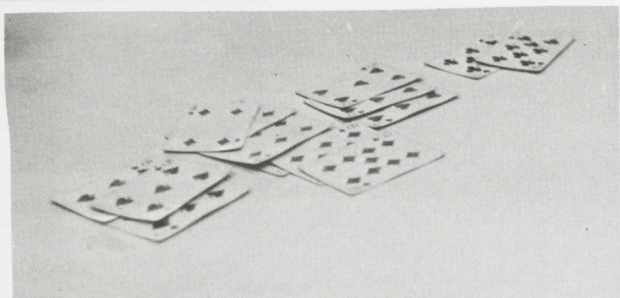
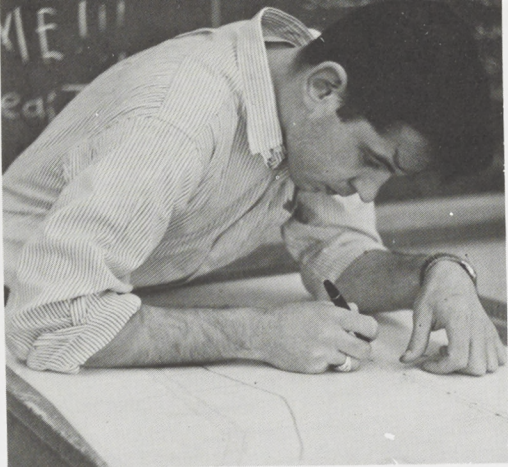
Known to the boys as the "ox", Mel is the largest member of the "Jellyfish Club". A graduate of Fort Francois High, Mel is a keen athlete and still maintains good scholastic standing. Future consists of marriage and the oil industry.

**ALLEN WAROWAY**

"Dat guy" of the "Not-many-of-us-left" gang. His hobby is staying sober on brewery tours. He will return to Creighton long enough to pick up ball and chain, then take Canada by storm. Probable future: work if remuneration is astronomically high.

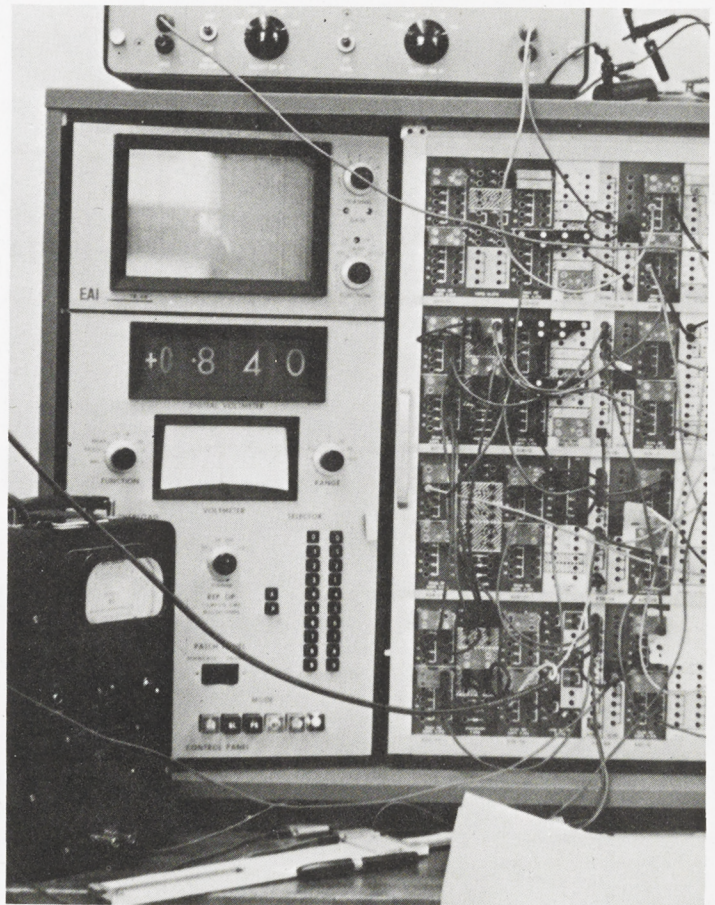
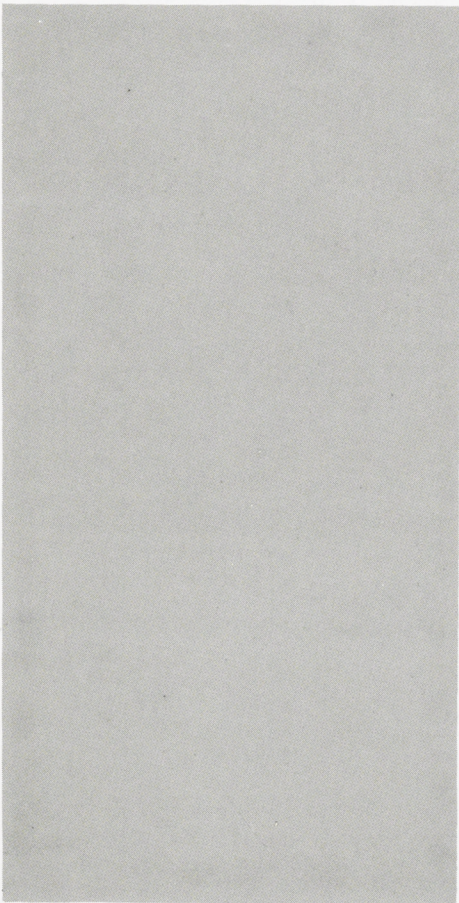








# ENGINEERING PHYSICS





# ENGINEERING PHYSICS III



**Back Row:** Sheldon Fast, John Westal, Horst Pacher.  
**Front Row:** Vic Temple, Carl Thorsteinson, George Gabriel.

**Horst Pacher** — proves that intelligence and hard work produce high marks.

**Vic Temple** — little work, intense concentration, girls and bridge equals success.

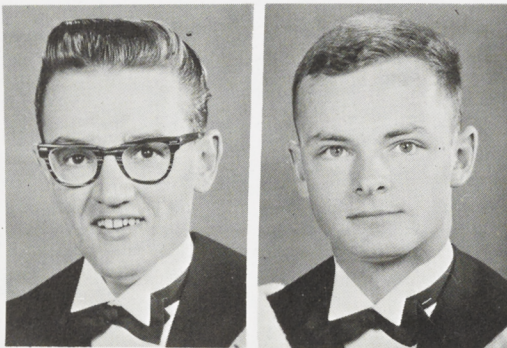
**Sheldon Fast** — a wise man shouldering the casting of pearls from council.

**John Westal** — maintains that he hasn't a clue yet scrapes through notwithstanding.

**Carl Thorsteinson** — Totes a deck of cards and lives from one spare to the next.

**George Gabriel** — often seen pulling his hair and praying for enlightenment.

## E.P. GRADUATES



### GLENN DUNCAN

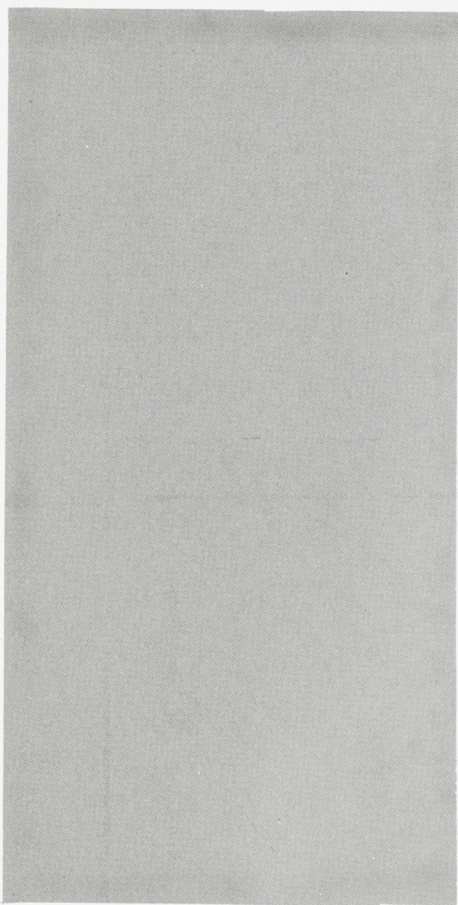
Glenn came to Winnipeg from Flin Flon four years ago and spent his first three years thawing out in residence. Having trouble adjusting to southern civilization, he was almost sent home when he mistook an UMSU waitress for a walrus and tried to harpoon her. It is generally known that he has an excellent set of references — how else could he have won so many scholarships? Glenn plans to do graduate work in Physics and will probably spend much of his life discovering that equipment works best when it is plugged in.

### JOHN SEDDON

John's hidden literary talent, revealed during the writing of the Power Prom pep rally script, astounded all of us "he never used to be like that, did he?" did an excellent job this year as Chairman of the I.E.E.E. student branch. Future plans: post graduate work, place undecided.

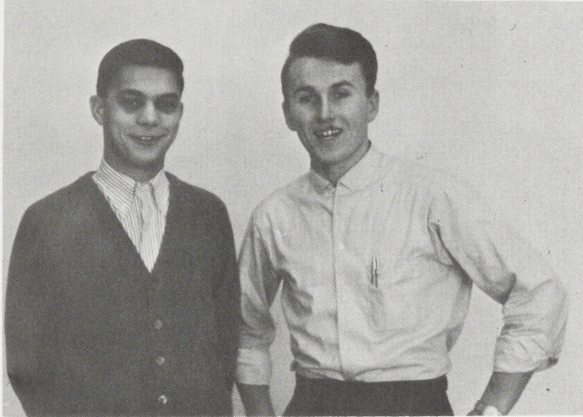


# GEOLOGICAL





# GEOLOGICAL III



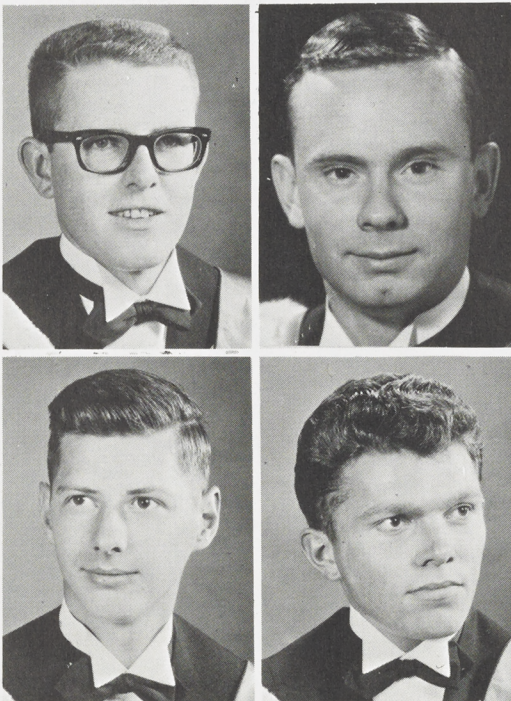
## **DON HARRISON**

"The bouncer" keeps order on the eighth floor during the Power Prom, and makes sure that only girls are allowed into the Geology party rooms. This year he made his first trip to the Montcalm. He tripped over chairs and tables and then casually ordered a "La Blue". All kidding aside, he's a credit to Geological Engineering.

## **HANS SCHMIDT:**

The only guy around that makes ozalid prints of the lecture notes that he missed. If there is anything that you need done that is expensive, talk to Hans. He has a girl friend for every need and there is no charge. If you ever need him his office is right next to the UMSU coffee counter; last table, west wall. Seriously, Hans is the backbone of the Geologicals. Without his organizing abilities, we would get nowhere.

# GEOLOGICAL GRADUATES



## **ROBERT McPHERSON**

Bob, a native from Whyteford, came to us from Gimli High School. Bob could never make it into the pub and thus became one of the top students in the class. A proud recipient of the Board of Governor's Bursary and the SEIC thesis award. Bob should find a prosperous and bright future awaiting him after post graduate studies.

## **KEN HAVARD**

Former resident of Elm Creek, now residing in Winnipeg. A conscientious worker — and he gets good marks too. Interests include curling, volleyball and Power Proms. Future: Geophysical exploration with Pan American Petroleum Corporation.

## **DIETER PFAFF**

Dieter is a St. Vital native who graduated from Glenlawn. He can usually be found in the Geology Building trying to figure out his thesis topic. After trying to go through a parked car with his V.W., he had a vision which told him to go to Europe for a holiday this summer and work for California standard in the fall.

## **EDWARD PROCYSHYN**

Ed hails from Winnipegosis. Besides being a good student, he participates in hockey, football, volleyball, rifle and still has time for women. He spent the last four summers working for Inco and he plans to take his Masters upon graduation.



